

NURSING TECHNIC

MARY C. WHEELER, R.N.

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NURSING TECHNIC



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CHICAGO, ILLS.

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PREFACE

THESE notes have been brought together with the hope that the teaching of the fundamentals of nursing technic may be more nearly standardized in Schools of Nursing.

We have sought to place before the students the main objects of any nursing procedure, to induce them to think and plan for the comfort of the patient, and to note the value of the procedure to the patient, together with the mechanical process of getting the materials together, and their proper use.

We have devoted much time to the various methods in order to find out those which could be successfully used together with the greatest economy of time, effort and materials.

Thanks are especially due Miss Sarah Warwick (deceased), Miss Myra Tucker, Miss S. Lillian Clayton, Miss Eleanore E. Hamilton, Miss Susan K. Lane, Miss Daisy Urch, and Miss Hattie J. Robinson. These nurses have all been instructors in the Illinois Training School for Nurses, through succeeding years.

MARY C. WHEELER, R.N.

May, 1918.



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NURSING TECHNIC

CHAPTER I

HOUSEKEEPING

ORDER OF THE WARD

A. Object:

1. For cleanliness as a precaution against contamination.
2. For order as an aid to more efficient work.

B. Articles necessary:

1. Waste basket lined with paper.
2. Whisk broom.
3. Basin of water.
4. Cloth duster.
5. Laundry soap.

C. General order, 7.15 A.M.:

1. Note temperature of ward.
2. Regulate ventilation.
3. Adjust window shades to uniform height, remove articles from sills at the same time.
4. Beginning at right side of ward, remove bed utensils and cleanse.
5. Remove refuse, with whisk broom, into basket, from tables, floor.
6. Morning airing of beds: place pillows at head of bed with open ends of pillow-case on mattress. Fold top covers down half-way, and then over the foot of the bed.
7. Empty beds: draw spreads tightly and arrange pillows.

D. General order, with morning care of patients:

1. Nothing to be kept between mattress and springs. Towel and wash-cloth to be folded neatly and kept on the rod at the head of bed, on side away from the ward door.
2. Wrappers, coats, trousers, extra blankets, etc., to be folded neatly and placed under pillow, or on rod at head of bed.
3. When extra rod at head of bed: place slippers on this rod, on the side away from the ward door.

When no extra rod at head of bed: place slippers between side rod of bed-frame and springs, at the head of the bed, away from the ward door.

4. Soap is to be wrapped in paper and kept on lower shelf of table.
5. Bed-pans and urinals must not be placed on tables, chairs or floor. They must be left in the bed until taken directly to the lavatory.
6. Tables: all personal belongings of patients, magazines, bags of fruit, etc., must be kept on the lower shelf of the bed-side table. The top must be kept clean for trays, drinking glass and flowers.
7. Nothing is ever to be placed or left on radiators, window sills or floor.

E. General order, 11 A.M. and 4 P.M.:

1. Regulate ventilation.
2. Note temperature of ward.
3. Place beds in line, 6 to 12 inches from wall, with castors turned toward head of bed.

4. Adjust window shades to uniform height. Remove articles from sills at same time.
 5. Beginning at right side of ward, remove bed utensils and cleanse.
 6. Empty beds: draw spreads tightly and arrange pillows.
 7. Place chairs uniformly.
 8. Extra blankets and clothing to be folded neatly and placed under pillow.
- F. The order of the ward includes the care to be given all corridors in that they are kept free from refuse, and the cleaning of tables, chairs, drinking fountains and the dusting of window-sills, etc.

CARE OF BATH ROOMS, LAVATORIES AND UTILITY ROOMS

A. Faucets:

1. Nickel, clean with soap and water. Rub dry
2. Brass, clean with metal polish.

B. Set bowls, basins, sinks:

1. Clean with cloth, laundry soap and water, or with scouring powder, which does not scratch the enamel.
2. Pour a solution of sal soda, 12 drams to 1 quart of water, in waste pipe, every few days, to keep it free from accumulation of grease

C. Hoppers and toilets:

1. Flush. Clean with stiff, long-handled brush, then with a cloth, laundry soap and water, or use scouring powder on cloth.

D. Bath-tubs:

1. Clean with laundry soap and water, or, if very greasy, use a small quantity of kerosene on the cloth, followed by hot water and soap, to remove the odor.

E. Bed-pans, urinals, emesis basins, aside from usual cleaning:

1. Put to soak in a deep sink.
 - a. Clean thoroughly by scrubbing with soap and water or with scouring powder.
 - b. Rinse thoroughly, disinfect with liquor cresol compound 1 per cent., or with other disinfectant.
 - c. Rinse with very hot water.
2. Cleanse as above and place in the bed-pan sterilizer with opening downward. Sterilize for ten minutes, remove, dry, and place in rack.

F. Waste cans:

1. After being emptied, cleanse, air.
2. Line with several thicknesses of newspaper or insert a heavy paper bag and tightly cover, while in use.

G. There should be no accumulation of any materials allowed in the utility rooms. The cleaning and supplies should be checked daily. Nothing is clean that can be made cleaner.**CARE OF PLUMBING**

Report defects at once.

Never allow water either to run or drop from faucets,

as it results in unnecessary waste of the water supply and unnecessary wear of the faucets.

Use sal soda solution, 12 drams of soda to 1 quart of water, to keep pipes free from grease.

Avoid throwing coffee or tea grounds, hair, thread, cotton, cakes of soap, etc., into any sink or toilet.

CARE OF BED UTENSILS

A. Bed-pans:

1. Cover, remove to utility room, examine contents, empty.
2. Rinse with cold water, using brush, if necessary.
3. Rinse with hot water.
4. If an odor remains, pour in 3 to 4 ounces of solution chlorinated soda or liquor cresol compound and rinse with hot water.
5. Place in rack.

B. Urinals:

1. Same as bed-pans.

C. Wash basins:

1. Clean with soap and water or scouring soap, if necessary, dry and place in rack.

D. Emesis basins, containing vomitus:

1. Save for specimen, if so ordered. If specimen not ordered, examine contents, empty, clean, disinfect, dry and place in rack.

E. Pasteboard sputum cups:

1. Gather in paper bags or newspaper cornucopias and place in receptacle for burning.

CARE OF RUBBER GOODS

A. General instructions :

1. Rubber appliances are expensive and need constant attention.
2. Avoid sticking pins into any rubber goods.
3. Prolonged exposure to heat destroys it.
4. Acids corrode it.
5. Oil and grease cause it to become soft and partially dissolved.
6. Rinse thoroughly after the use of soap.
7. Never use sand-soap on rubber, as it scratches.
8. Because unused rubber becomes dry and cracks easily, from time to time, soak it in cold water.
9. Folding cracks it ; all rubber sheeting should be rolled or hung on bars.

B. Cleaning :

1. Clean all articles after using, at once and in cold water.
2. If scrubbing is necessary, use soap and tepid water.
3. Rinse off the soapsuds thoroughly, with tepid water.
4. If an odor remains, immerse in a solution of formaldehyde, 2 per cent., for 30 minutes.
5. Rinse in cold water.

C. Boiling :

1. Rubber boiled in soda water becomes softened, while boiled in salt water, it becomes hardened.
2. Protect articles by laying them on a piece of muslin in the sterilizer.

FIG. 1.—Ticking sewed on both sides of rubber sheets saves rubber sheeting, clings to under sheets, and thus avoids the use of safety pins at the four corners; a saving in time, materials and infected fingers.



3. Boil thin articles, as gloves, nipples, etc., 3 minutes.
4. Boil heavier articles, as colon tubes, etc., 5 minutes.
5. Hard rubber tubes should be allowed to cool immediately, being careful that they are placed in such a way as to not alter their shape, while soft.

D. Chemical disinfection:

1. Use 2 per cent. solution of formaldehyde for one hour. Rinse in cold sterile water.

E. Drying and putting away:

1. Leave thoroughly dry and in as cool place as possible.
2. Tubing: stretch repeatedly to squeeze moisture from the inside and hang up by one end.
3. Air beds, cushions, ice-bags, ice-caps, hot-water bags, etc.: clean, when inside is perfectly dry, keep the double surfaces apart by inflating with air, pour into the inside a small quantity of smooth powder, or insert paper or old muslin.
4. After hot-water bags and ice-bags have been used, hang with the open end downward, or ice-bags may be placed on wooden racks.
5. Ice coils, when clogged, may be cleaned by allowing warm soda solution (bicarbonate of soda one dram, water one pint) to pass through the tubing. Rinse with warm water and hang up so that the tubing will not be bent.

6. Gloves: clean, boil, dry, and powder both surfaces.
7. Mark rubber goods with a fresh stick of lunar caustic, slightly dampened. No mark will be visible, at first, but by laying it aside or placing it in the light, the mark will show plainly and cannot be eradicated. It does no harm to the rubber.

CARE IN COMMUNICABLE DISEASES

In case of typhoid fever, all patients should be screened, so that flies cannot come in contact with them or with any of their excretions. Vaccination against typhoid fever is advisable.

Vaccination against smallpox is compulsory.

In order to find out which patients are carriers of typhoid and to report such cases to the department of health, it is required of the senior internes to make a fecal and urine analysis before discharging typhoid convalescents. Two analyses should be made at an interval of 48 hours.

When caring for a case of syphilis, see that there are no abrasions of the skin on any part of the body, which have not had an application of an ointment made of lanolin and bichloride of mercury, 33⅓ per cent. After cleaning the hands, re-apply to any open places.

The following rules should always be carried out when caring for communicable diseases, such as typhoid fever, epidemic meningitis, measles, scarlet fever, tuberculosis, anterior poliomyelitis, syphilis, etc.:

A. Nurse:

1. Pin uniform sleeves so as to bare the forearm.
2. Cover clothing with rubber apron and muslin gown.
3. Wash hands and see that there are no unprotected abrasions of the skin.
4. When patients are badly infected, use rubber gloves.
5. After caring for patient, soak hands in carbolic, $\frac{1}{2}$ per cent., for two minutes, then scrub hands with green soap and water. Use nail file. Rinse hands again in carbolic $\frac{1}{2}$ per cent. and alcohol.
6. Never touch screens, bed, door-knobs, soap, face, hair, eyes, nose, etc., before disinfecting hands.

B. Care of linen:

1. Never place soiled linen on chairs, table or hold it against the uniform. Place it directly in bags used for that purpose.
2. Transfer to can, sprinkle with formalin 40 per cent. and allow to stand for 10 hours.
3. Know that the cover of the can fits tightly, and send to laundry.

C. Stools, urine, bath-water:

1. Place in covered cans.
2. Disinfect with a freshly made solution of chlorinated lime, 5 per cent. (20-gallon can requires 3-4 oz.), and allow to stand for at least one hour.
3. Excretions must be mixed with disinfectant solution, double its own volume.

4. Stools should be broken so that the disinfectant may come in contact with all portions.
5. To bath-water add carbolic sufficient to make $\frac{1}{2}$ per cent.
6. Keep vessels well covered.
7. In the utility rooms, have a separate place for the care of utensils used in the care of all of these cases.

D. Dishes:

1. Keep separate.
2. Garbage should be placed in paper bags or cornucopias and burned, or disinfected with formalin.
3. After dishes have been used they should be boiled, then washed with soap and water.

E. Discharges from nose, throat, etc.:

1. These should be received in gauze or paper and burned.

F. Brushes, bed-pans, urinals, basins:

1. Keep separate, boil in utensil sterilizer.

G. Thermometers:

1. Keep separate.
2. Disinfect with 5 per cent. carbolic and alcohol.

H. Rectal tubes, ice-bags, etc.:

1. Clean with soap and water.
2. Disinfect with 5 per cent. carbolic for one hour.

I. Visitors:

1. All visitors should be excluded from patients suffering from highly contagious diseases.
2. Children should always be barred.

STAINS

Prevent all stains, but in case of accident, attempt to remove them at once.

A. Acids:

1. Strong acids char or stain wood and linen and destroy the polish on wood and marble. Neutralize at once with ammonia.
2. Weak acids: neutralize with weak ammonia or soda bicarbonate solution.
3. Acids which have removed the color from goods: the color can be brought back by the use of chloroform.
4. Acids may burn the skin: dilute the acid, at once, by holding the hand under cold running water and neutralize with ammonia water or soda bicarbonate solution. In case of carbolic acid burns, apply alcohol, at once.

B. Alcohol on varnished surfaces:

1. Apply camphorated oil or olive oil. If stain is of long standing, rub well with sweet oil, 1 part, and alcohol, 1 part. Polish well with sweet oil.

C. Bichloride of mercury on linen:

1. Soak in Labarraque's solution or chlorinated soda solution, several hours. As soon as the stain is removed, wash and rinse, at once, as soda is injurious to linen.

D. Blood stains:

1. On sheets: while still wet, soak in cool, salty water, salt 1 dram to 1 pint of water. Wash with soap and water. If the blood stains are dried, use same method, but allow to soak for a longer time.

2. On dressings and bandages : soak in chlorinated soda solution, rinse thoroughly.
3. On mattresses and pillows :
 - a. Remove small stains with peroxide of hydrogen.
 - b. Remove large stains by applying an un-boiled, thick, cold-water starch-paste to the spot and allow to stand until dry. Brush. Wash thoroughly with brush and hot water, soap and a little ammonia.
 - c. In case the stain is not removed with one application, repeat as often as necessary.
4. On blankets : remove in the same manner as for sheets, but wash with warm water and soap.
5. On rubber goods : remove in the same manner as for sheets.
6. On wood : wash with cold water before it has dried. Use ammonia water or peroxide of hydrogen.

E. Fruit stains on linen :

1. Peach and pear stains become indelible if linen is dried and laundered before removal.
2. To remove : wash in hot water in which a little soda has been dissolved, or pour boiling water through the stain.

F. Feces :

1. On linen : rinse with cold water at once. Soap well and allow to soak in cold, soapy water and then boil in the same.

G. Grease, glue, grass stain, tar :

1. Grease on unpainted wood: apply solution of sal soda, dissolved in cold water. Wash off with hot water or scrub with cold water and then with ammonia and sand-soap.
2. Grease on porcelain: use kerosene with soap and water.
3. Axle grease on linen : grease well with lard and wash in tepid water.
4. Tar, paints, water-proof ink: same as axle grease. Benzine to remove tar.
5. Glue: soak in vinegar and wash in soapy water.
6. Grass stains: soak in alcohol and wash in usual way; or apply lemon juice and salt, place in the sunshine and wash.

H. Ink, black :

1. On linen: remove small spots with lemon juice and salt or with ink eradicator, or with chlorinated soda solution, or with weak oxalic acid solution. Rinse thoroughly, at once, with clear water.
2. On wood: remove excess with blotting paper or with starch-paste; when no more can be absorbed, rub with lemon and salt. Wash with cold or tepid water.

Ink, red :

Wash in cold water, then in hot water. Results usually unsatisfactory.

Ink, indelible :

Use a weak potassium permanganate solution, then wash. Results usually unsatisfactory.

I. Iodine :

1. On linen: fresh stain, wash in cold, soapy water. On linen: old stain, apply cold starch-paste and sponge with ammonia water or alcohol.
2. On wood: unpainted or unvarnished, cover with cold starch-paste until iodine is absorbed. Wash with ammonia and water.
3. On skin: rub well with alcohol and water.

J. Iron rust (prevention is the best rule) :

1. On linen:
 - a. Dampen with cold water, apply salts of lemon and let it remain for some time. Wash with clear water.
 - b. Apply lemon juice and salt and let it stand in the sunshine.
 - c. Apply cream of tartar paste and let it stand in the sunshine. Repeat as often as necessary.
2. On porcelain: use 10 per cent. hydrochloric acid. Remove acid with carbonate of soda (washing soda, 3 tablespoonfuls of soda to 1 quart of water).
3. On marble: use salts of lemon, moisten with clear water and let it stand until the stain fades.

K. Medicines on linen :

Wash in cold water immediately, or use alcohol.

L. Mildew (prevention is the best rule) :

1. Apply lemon juice and sunlight or lemon juice and salt or chlorinated soda. Repeat as often as necessary.

2. Wet with strong soap-suds, cover with a paste of soap or powdered chalk or chalk and salt, then place in strong sunlight. Results usually unsatisfactory.

M. Oil:

1. On marble: wash with soda bicarbonate solution. Apply paste of whiting and animonia and let stand for 24 hours. Repeat if necessary.
2. On linen: use kerosene, then soap and water. If spots are small, cut with ether and wash.
3. Carron oil on linen: stains are difficult to remove. Use only old linen when carron oil is ordered. Turpentine may remove if used while stain is fresh.

N. Potassium permanganate:

1. Use chlorinated soda solution or apply weak oxalic solution. Rinse thoroughly.

O. Paint:

1. Wet: on woolen goods, rub with another part of the garment or rub with benzine.
2. Dry: use benzine or turpentine.

P. Silver nitrate:

1. Remove from hands with potassium iodide solution.
2. Remove from linen with argyrol or bichloride of mercury solution, 1-500. This will probably not prove permanent. Iodide of potassium solution will remove permanently. Rinse thoroughly.
3. Silver nitrate solution on unfilled wood surface: stain not removable.

Q. Tea and coffee on linen:

1. If clear, remove at once with cold or boiling water.
2. If it contains milk or cream, wash first in cold water, then in boiling water.

R. White spots on polished surfaces:

1. Sponge with spirits of camphor.
2. Follow by rubbing with oil and turpentine or oil and alcohol.
3. Rub with olive oil or camphorated oil.

CHAPTER II

BEDS

CLEANING EMPTY BEDS

A. Object:

1. Clean bed.
2. Prevention of infection.

B. Time:

1. After death of patient.
2. After discharge of patient.
3. In case of vermin.

C. Articles necessary:

1. Newspaper.
2. Laundry soap or whiting, mixed to a soft paste, in a bowl.
3. Paper bag.
4. Two cloths.
5. Hand brush.
6. Basin with warm water.
7. Whisk broom.

D. Method:

1. Remove all bed clothing.
2. Brush mattress thoroughly and on both sides, both tufts and seams. Brush the dust into a paper bag or cornucopia, held to the side of the bed.
3. Fold mattress once and push toward foot of bed.

4. Protect floor with newspaper.
5. Clean head and sides of frame with laundry soap or whiting, using brush, if frame is very dirty.
6. Wash with clean warm water.
7. Push folded mattress toward head of bed and proceed in the same way, cleaning the frame and foot of bed.

CARBOLIZING EMPTY BEDS

A. Time:

1. After discharge of patient.
2. After death of patient.
3. In case of vermin.

B. Articles necessary:

1. Same as in cleaning bed.
2. Two and one-half per cent. carbolic acid solution.

C. Method:

1. Remove all bed-clothes.
2. Brush both sides of mattress with whisk broom dampened in $2\frac{1}{2}$ per cent. carbolic solution. Expose to air or sunshine until dry, or send to sterilizer.
3. Place pillows on lower half of mattress and brush both sides with same solution. Air until dry; do not put pillow in the sun, as the heat melts the oil in the feathers and masses them.
4. Fold mattress over pillows from head to foot of bed.

5. Brush springs with whisk broom. Carbolize upper part of bed and springs with $2\frac{1}{2}$ per cent. carbolic solution and dry with a clean cloth. Never use bichloride of mercury solution on metals.
6. Move folded mattress to head of bed.
7. Carbolize springs and lower half of bed.
8. Apply phenol, 95 per cent., or cedar oil preparation (cedar oil, 1 oz.; turpentine, 1 pt.) to cracks of bed with oil can.
9. Mattress and pillows should be inspected frequently for stains, and tears or rips in the ticking. Stains to be removed and repairs made by the nurse in charge of the beds.

TO CLEANSE BEDS INFECTED WITH VERMIN

A. Articles necessary:

1. Same as in cleaning bed.

B. Method:

1. Remove bed-clothes, without shaking.
2. Place linens in hot water.
3. Place blankets in cold or tepid water.
4. Protect floor with sheet.
5. Brush and inspect mattress and pillows for vermin.
6. Clean bed as before directed.
7. Apply cedar oil preparation to all cracks.
8. Requisition for plumber to use torch.

BED-MAKING**A. Object:**

1. Cleanliness.
2. Firmness.
3. Smoothness.
4. To meet needs of patient.
5. Comfort of patient.
6. Appearance.

B. General instructions:

1. All articles should be ready for use before beginning to make the bed and all articles used should be put away in their proper places and in order.
2. An empty bed should be made from one side, going around the foot of the bed not more than twice, during the process.
3. Time allowed, 10 minutes.

C. Articles necessary:

1. Clean linen arranged on chair in the order it is to be used. The upper sheet may be used as a draw sheet.
2. Laundry bag. If not a portable bag, the same may be attached to the back of a chair.
3. Paper bag or cornucopia, made from newspaper, pinned to laundry bag.
4. Whisk broom.
5. Basin containing tepid water and cloth for duster.
6. One straight-back chair.

D. Method:

1. Place chair with the back in line with the side of the bed by which you are standing.

2. To remove linen :
 - a.* Loosen all bed covers.
 - b.* Remove pillows, changing the more soiled pillow slips.
 - c.* Place pillows flat on chair seat, with open ends away from door.
 - d.* Remove each piece of bed covering by doubling the top toward the foot, thus bringing the upper surface inside, and fold a second time, in the opposite direction, lift from bed and place on chair back (Fig. 2).
 - e.* Brush mattress, inspecting seams and tufts, accumulated dust being brushed into paper bag (Fig. 3).
 - f.* Turn mattress and brush (Fig. 4).
 - g.* Dust all parts of bed frame with dampened cloth (Fig. 5).
3. To make bed : Replace bed clothes in the order of their removal.
 - a.* Place fold of lower sheet on centre line of mattress and unfold.
 - b.* Have the narrow hem of the sheet even with the lower border of the mattress and draw the wide hem of the sheet toward head of bed.
 - c.* Tuck sheet under head of mattress, bringing it as far under as possible ; tuck one side of sheet under side of mattress, as far as possible, and square the corner at head of bed.

FIG. 2.



FIG. 3.

FIG. 2.—Removal of bed-clothes.
FIG. 3.—Brushing mattress.

FIG. 4.



FIG. 5.

FIG. 4.—Turning mattress from head to foot.
FIG. 5.—Dusting bed frame.

- d.* Adjust rubber and draw sheet 12 inches from head of mattress and tuck them well under the mattress, beginning at the middle of the width.
- c.* Place centre fold of top sheet on centre line of mattress and unfold. Draw the wide hem end of the sheet toward head of bed, leaving a sufficient amount at the foot to tuck well under the mattress (Fig. 6).
- f.* Make an inverted plait at the foot of the bed and tuck in the sheet under the foot of the mattress and square the corner (Fig. 7).
- g.* Place lower blanket in same position as top sheet and tuck it under the mattress at least 4 inches.
- h.* Place upper blanket with upper border within 6 inches of top of mattress (Figs. 8 and 9).
- i.* To square the corners. Bring out the covers in a straight line with the upper border of the foot of the mattress (Fig. 10). Fold this crease evenly along the upper side border of the mattress (Fig. 11). Tuck in the clothes hanging below the edge of the spring, with the free hand (Fig. 12). Pull downward on the outside of the fold and tuck the remaining portion as far under the mattress as possible, the full length of the mattress (Fig. 13).



FIG. 6.—Making bed. Showing edge of lower sheet even with mattress, and rubber sheet with ticking at ends.



FIG. 7.—Toe plaits in upper sheet.

FIG. 8.



FIG. 9.

FIG. 8.—Placing blankets.
FIG. 9.—Boxing blankets for unoccupied bed.

FIG. 10.

FIG. 11.



FIG. 12.

FIG. 13.

FIG. 10.—To square corners: First movement, extend a fold in the bed-spread continuously with the line of the upper border of mattress.

FIG. 11.—Second movement in squaring corners, making the first line even with the upper border of mattress.

FIG. 12.—Third movement in squaring corners, tucking in lower part of spread.

FIG. 13.—Finishing box corner.

FIG. 14.



FIG. 15.



FIG. 16.

FIG. 17.

FIG. 14.—Tucking in bed-spread.

FIG. 15.—Finishing corner with hanging spread.

FIG. 16.—Making line for an oblique corner.

FIG. 17.—Finished oblique corner and passing to opposite side of bed.

- j.* If one blanket only is used, place as in "g." Should more than two blankets be used, all but the top blanket should be placed in position of upper blanket as in "h."
- k.* Fold top sheet over upper border of blankets.
- l.* Place the spread evenly, covering all of the blanket, and tuck very tightly under the foot of mattress and square the corners (Figs. 14, 15, 16, and 17).
- m.* Pass around foot of bed to make the opposite side.
- n.* Fold all loosened covers, excepting the bottom sheet, neatly back over one-half of made bed and proceed in bed-making as on opposite side (Figs. 18 and 19).
- o.* Place pillow, crosswise, on bed and draw on pillow slip. Fit corners of pillow well into corners of slip. Press it with the palms of hands until flat. Never hold pillow between the teeth.
- p.* Place the pillow at the head of the bed with the seam along the upper border and the open ends of the case away from the ward door, leaving it in a flat position. Flatten the second pillow as the first and lift it in a standing position on the first pillow, with the seam along the lower border and the open end away from the ward door, with any extra folds of pillow case at the back of the pillow.



FIG. 18.—Dusting bed frame on opposite side of bed.



FIG. 19.—Making bed on opposite side.

- q.* Straighten bed-side table.
- r.* Leave bed in line with castors turned toward head of bed (Fig. 20).
- s.* Replace chair in position.
- t.* In preparing an empty bed for a new patient, every article should be clean.



FIG. 20.—Finished bed and dusting bed-side table.

AIR AND WATER BEDS

A. Object:

1. To equalize pressure, thus lessening the danger of pressure-sores.
2. To afford comfort to the patient.

B. General instructions:

1. Avoid sticking pins into either air or water beds.
2. If an air bed, keep properly inflated with air, not too hard.
3. If water bed, keep the water 100 degrees F.

C. Method:

1. Cover springs of ordinary bed with fracture boards.
2. Place air or water beds over hair mattress.
3. Boards should be fitted to sides of bed, to prevent patient from falling out.
4. If an air bed, inflate with ordinary force pump.
5. If a water bed, fill with water, temperature of 110 degrees F., by a hose attached to a faucet or by water taken to bedside and poured in through a funnel.
6. Make as an ordinary bed.

FRACTURE BED**A. Object:**

1. To afford a rigid position for the affected part.
2. To avoid moving the patient.
3. To afford comfort to the patient.
4. To prevent sagging of the mattress.
5. To protect the mattress.

B. General instructions:

1. Have supports properly placed.
2. Have little or no weight of bed-clothes over fracture.

C. Articles necessary:

1. Wooden fracture boards of convenient width and 2 inches longer than the width of the bed frame.
2. Usual articles for making empty bed.
3. Bed linen, as required.
4. Extra rubber sheet and cradle.

D. Method:

1. Place fracture boards below the spring under the seat of fracture, resting the ends on the bed frame.
2. Make as an ordinary bed.
3. If patient has been anesthetized, make as an operation bed.
4. If the fracture is of the hip, place extra small rubber sheet and folded muslin sheet under the hips.
5. Place cradle over fractured part of body to relieve patient of weight of bed-clothes.

OPERATION BED**A. Object:**

1. To have a bed so made that a patient can be quickly placed in the same.
2. To provide external heat so as to assist in recovery from shock or to prevent shock.
3. To afford comfort to the patient.

B. General instructions:

1. Use clean linen.
2. Place rubber sheet so as to protect the mattress, in case of hemorrhage.
3. Heat bed one-half hour before patient is returned from operating room.
4. Never leave the hot water cans in the bed after the patient is returned.

C. Articles necessary:

1. Linen, as for an empty bed.
2. Small rubber sheet for head of bed.

3. Two hot water cans one-half full of water 115 degrees F., and covered with flannel.
4. Towel; three or four cloths for handkerchiefs.
5. Kidney basin.

D. Method:

1. Make an ordinary empty bed.
2. Protect head of bed with small rubber sheet covered with muslin sheet; the lower border of this protection should extend to just below the shoulders and be well tucked under the mattress at both sides.
3. Place top covers on bed without tucking in.
4. Fold covers back from foot and one side, making a flat fold eight to ten inches wide.
5. Place one hot water can at foot and one in middle of bed.
6. Tuck in side of bed next to door of ward.
7. Place small basin, cloths and towel on bedside table.
8. Time to make up bed, 8 minutes.
9. When patient returns:
 - a. Remove hot water cans.
 - b. Roll bed-clothes, with open side away from door of ward; beyond middle of bed.
 - c. Remove perineal suit immediately, wrap in blanket and cover.

KLONDIKE BED

A. Object:

1. To prepare a bed for a tuberculosis patient or others, who for any reason sleep out-doors.

B. Method:

1. Place a piece of fibre paper between springs and mattress.
2. Tuck in muslin sheet on all sides of mattress.
3. Over sheet, place a woolen blanket, so that an edge comes to one edge of mattress, leaving over one-half of the blanket hanging from edge of bed.
4. Place a second woolen blanket so that its edge will come to the edge of the opposite side of bed and hang as in 3.
5. On these is placed a bed protector.
6. Place three pillows at head of bed, one flat, the other two slanting, with open ends toward same side of bed.
7. Place two cotton blankets so that one will be higher on the pillows than the other.
8. Have patient assume a comfortable position in the bed, noting that she is suitably clothed.
9. Cover patient with the cotton blankets, tucking the same in well about the shoulders.
10. Over these draw the two woolen blankets, tucking in each one at the opposite side of the mattress.
11. Tuck all blankets in at the foot of the bed.
12. Place sheet of fibre paper and woolen blanket over all and tuck in well on all sides of bed.
13. Finally cover the entire bed with a sheet made of khaki cloth.
14. If hot water bottles are needed in the bed, place them before the woolen blankets have been adjusted.

CHAPTER III

BATHS

CLEANSING BATHS

A. Classification :

1. Bed bath.
2. Tub bath.
3. Slab bath.
4. Shower bath.

B. Object :

1. Cleanliness.
2. Comfort of patient.
3. To quiet the nerves.
4. To change the circulation.
5. To stimulate the sweat glands.
6. To assist in preventing pressure sores.

C. General instructions :

1. Do not give bath within one hour after eating.
2. Temperature of room may be higher, but not lower than 72 to 74 degrees F.
3. The room should be ventilated but no draught.
4. Temperature of water from 90 to 105 degrees F.
5. Avoid unnecessary exposure or chilling.
6. If patient chills or is exhausted after or during bath, give hot drinks, apply external heat and allow patient to rest.
7. Examine patient for objective symptoms, such as :
 - a. Rash.

- b.* Swellings.
 - c.* Discolorations.
 - d.* Pressure sores.
 - e.* Discharges.
 - f.* Abrasions.
 - g.* Vermin.
8. Record cleansing bath after the same has been given, with the result of the observations as in 7.
9. General instructions for bed bath:
- a.* Wet and soap the wash cloth, holding the corners in the hand so that they will not drag over the patient.
 - b.* After washing any part of the body, rinse and dry.
 - c.* When drying the skin, do not drag the towel over the skin, but pat as if using blotting paper.
 - d.* Use even, long, firm strokes.
 - e.* The patient made comfortable by a bath, compliments the nurse by going to sleep.

D. Articles necessary for bed bath:

- 1. Nurse basket.
- 2. Two bath blankets.
- 3. Clean linen.
- 4. Laundry bag and paper bag.
- 5. Basin of hot water.
- 6. Foot tub, if necessary.

E. Method:

- 1. Place screens about the bed.
- 2. Remove top covers, placing blanket over patient.

3. Remove pillows in such instance as the condition of patient will allow.
4. Turn patient and put second blanket underneath.
5. Place rubber sheet and towel under head.
6. Place towel over chest.
7. Wash face, ears, neck and under chin. Do not use soap unless requested.
8. Cleanse eyes by using cotton pledgets, one for each eye.
9. Cleanse mouth.
10. Cleanse nostrils by using lubricant on applicators.
11. Bathe chest.
12. Place patient's arm on towel and cleanse. Place hand in basin of water and cleanse. Brush nails with soap suds, cut and then brush again. Dry.
13. Bathe second arm and hand.
14. Place towel over chest, turn down blankets and cleanse abdomen.
15. Change water.
16. Cleanse thigh and leg.
17. Cleanse one foot in foot tub, remove and place on towel, dry and care for nails.
18. Cleanse second leg and foot.
19. Turn patient, cleanse back, rub with alcohol and powder.
20. Change water and finish the bath.
21. If patient's feet are very dirty, place in foot tub while bathing other parts of body or apply olive oil and wrap in towel to soften the dirt.

22. Replace gown, make up bed—dusting the frame—and comb hair.
23. Put all articles away in their proper places and leave patient comfortable.

F. Tub bath:

General instructions:

Never add hot water to the prepared bath when the patient is in the tub.

In case a patient feels faint when in the tub, let the water out of the tub, lower the head and cover with a blanket. Do not try to lift a heavy body out of a tub.

When a patient is ready to leave the tub, spread a towel on the bottom of the tub, wash away the soap-suds from the bottom and side of the tub and place a towel over the side of the tub. This is done to avoid slipping.

Do not leave a patient in a tub of water longer than 10 minutes unless special orders to the contrary are given.

Never allow a patient to go into the bathroom alone and lock the door.

Articles necessary for tub bath:

1. Warm bathroom and tub filled with water of desired temperature.
2. Towels, soap, clothing.

Method:

1. Take patient to bathroom in wheel chair or, if able, allow to walk.
2. Drape patient with sheet or with large bath towel.

3. Place in tub and cleanse thoroughly.
4. Upon getting out of tub, drape with sheet or blanket and dry.
5. Return to bed and have patient rest for a short time.
6. Record cleansing bath and observations.

G. Slab bath:

When giving the initial bath in the receiving department, there are always two persons present.

Preparation for bath:

1. Remove clothing while patient is still on cart or wheel chair.
2. Wrap blanket about patient and lift upon the slab.
3. Remove the blanket and cover the patient with a small sheet provided for that purpose.
4. Place feet in tub of warm water. This helps to keep the patient warm and also allows the feet to soak, if very dirty.

Method:

1. Face, neck and ears are washed by one person while the other lathers the body.
2. One person on either side of table, proceed as follows:
 - a. Wash arms and hands.
 - b. Trunk
 - c. Legs and feet.
3. First person sprays body well with clear, warm water, while second person gives shampoo. When completed, wrap head in towel (Fig. 21).



FIG. 21.—First patient receiving entrance slab bath. Second patient having hair dried before being sent to the ward.

4. Remove patient from the slab to a wheel cart, exchanging the wet sheet for the dry sheet. Cover with small blanket and dry thoroughly, under cover.
5. While the patient is being dried, the second person dries the hair, combs and braids. Clean nails.

Method of sending patient to ward:

1. Remove covers and replace with:
 - a. Sheet.
 - b. Blanket.
 - c. Spread.
 - d. Place pillow under head.
 - e. Signal for orderly.
2. Patient is then taken to the waiting room, from which place he is transferred to the ward by the orderly.

II. Shower bath. Method:

1. Patient's clothing is removed, seated on a low stool in the shower bath with feet in a tub of warm water.
 2. Body is lathered, after which the spray is turned on and the patient assists as much as possible.
 3. Back is washed by nurse, after which the head wash is given.
 4. Spray is turned off, patient placed in a chair, body dried. Dress.
 5. The hair is dried, combed, nails cleaned.
- Time allowed, 15 to 20 minutes.

I. Pediculi on body:

1. Daily bath with laundry soap and water.

2. Follow with bichloride of mercury, 1-2000.
3. Shave if necessary.

BATHS IN HYPERPYREXIA

A. Object:

1. To stimulate general circulation, oxidation and nutrition.
2. To help equalize circulation of internal and peripheral organs.
3. To assist in eliminating toxic material.
4. To reduce temperature.
5. To afford comfort to the patient.
6. To aid in the prevention of bed sores.

B. Time:

1. Whenever the temperature is 102.5 degrees F. and above.

C. Types:

1. Sponging.
2. Packing.
3. Tubbing.

D. General instructions:

1. Do not allow the patient to be in a draught.
2. Encourage the patient to breathe deeply during the treatment.
3. Give plenty of cool water to drink.
4. Apply cold to head.
5. Apply heat to feet to prevent chilling and to counterbalance temperature between central and peripheral portions of the body.
6. Use friction for the same reason as for the application of heat to feet. Always use friction when giving cold packs or tubbings and

it may be necessary in sponging and other packs.

7. After all cold applications, leave the patient in blankets until reaction takes place.
8. During any of the treatments, watch for evidences of shock:
 - a.* Weak, irregular pulse.
 - b.* Pallor about the mouth.
 - c.* Cyanosis of finger nails.
 - d.* Slow and shallow respirations.
9. In case of shock, stop treatment, apply external heat, report condition to head nurse at once.

E. Record:

1. Pulse and respiration just before giving treatment.
2. Hour beginning treatment.
3. Kind and length of treatment.
4. Pulse and temperature every 15 minutes during treatment.
5. Temperature, pulse and respiration 30 minutes after treatment, noting, especially, the quality of the pulse.
6. The general and nervous condition of the patient.
7. Any adverse symptoms arising during treatment.

F. Sponging:

1. Articles necessary:
 - a.* Two blankets.
 - b.* Two towels.
 - c.* Small rubber sheet.
 - d.* Sponging cloth, two moist compresses.

- e.* Hot water can.
 - f.* Cool drinking water and tube.
 - g.* Basin with ice, protected from the air.
 - h.* Basin with tepid alcohol solution, 25 per cent.
 - i.* Alcohol, 50 per cent., for external use.
2. Method:
- a.* Remove covers as in bed-patient's bed.
 - b.* Remove all pillows not necessary to the patient's comfort.
 - c.* Place blanket under patient and remove gown.
 - d.* Hot water can to feet.
 - e.* Sponge face and neck.
 - f.* Cold compresses to head, changed frequently.
 - g.* Expose one arm, cover with a thin layer of sponging solution, using long, rhythmic strokes, from hand to axilla, using slight pressure.
 - h.* Sponge opposite arm.
 - i.* Fold blanket down to hips, exposing chest and abdomen.
 - j.* Sponge chest and abdomen, avoiding any pressure on abdomen.
 - k.* Fold blanket over abdomen.
 - l.* Wring towel out of sponging solution and place over chest with ends in axillæ.
 - m.* Expose and sponge each leg.
 - n.* Repeat in the same order, each time going over the surface.
 - o.* Time allowed: five minutes for each arm

and leg, seven minutes for chest and abdomen. This includes time for changing compresses on head, chest and giving drinks of water.

- p.* Turn patient on side; sponge back and buttocks for seven minutes; rub dry with alcohol.
- q.* Fold blankets to centre of bed, turn patient on back and remove blanket.
- r.* Rub remainder of body with alcohol.
- s.* Make bed; leave hot water can to feet and cold to head.
- t.* If reaction does not take place, place between blankets.

G. Packing. Warm pack:

1. Articles necessary:

- a.* Two blankets, two towels, spread, clean sheets.
- b.* Long, short and small rubber sheets.
- c.* Basin with ice, two moist compresses.
- d.* Water to drink and drinking tube.
- e.* Hot water can, basin for wet sheet.
- f.* Alcohol, 50 per cent.

2. Method:

- a.* Remove covers and gown as in bed-patient's bed.
- b.* Remove all pillows not necessary for patient's comfort.
- c.* Place blanket and rubber sheet under patient to centre of bed, having upper edges coming high above shoulders.
- d.* Prepare dry sheet by rolling the edges

toward the centre and again roll, loosely, from the sides toward centre.

- e.* Wring this sheet out of water as hot as can be borne by the hands.
- f.* Enclose in short rubber sheet and carry to bedside in basin.
- g.* Place wet sheet in same position as blanket in "c," turn patient on the prepared side of bed, quickly draw the rubber sheet, blanket and half of wet sheet from under.
- h.* Cover patient well with blankets, folding the wet sheet around arms and legs so that no two surfaces of skin are in contact. Do not cover feet with wet sheet.
- i.* Fold edges of lower blanket over upper blankets and place hot water can to feet and cover well.
- j.* Bring rubber sheet down over shoulders, protecting the neck.
- k.* Place clean sheet over bed and tuck it in at the foot only, squaring corners.
- l.* Allow patient to remain in pack 45 minutes, changing head compresses and giving water, frequently.
- m.* Remove patient from pack, dry and give alcohol rub.
- n.* Make bed, observe usual precautions and record.

Packing. Tepid pack:

1. Proceed as in warm pack, except before wrapping patient in wet sheet, place a towel across

the hips. Wring sheet from water 98 to 100 degrees F.

2. Leave patient exposed in wet covering.
3. Sprinkle with tepid water, if sheet becomes dry, using a small watering pot, or sprinkle with water from a pitcher, using the hand.

Packing. Cold pack:

1. Articles necessary: same as for warm pack, except a larger supply of ice, and a sea sponge.
2. Method: proceed as in warm pack, except before wrapping the patient in wet sheet, place a towel across hips. Wring sheet out of water 98 to 100 degrees F.
3. Sprinkle with water, gradually cooled to 70 degrees F.
4. Wrap towel about hand, grasp a piece of ice and iron patient's body with same. Use friction with the free hand, closely following the ice.
5. Turn patient on side and iron back with ice before removing from pack.
6. Continue treatment for 20 minutes.
7. Wipe up water with sea sponge, if necessary. Remove patient from pack and leave between blankets for one-half hour.
8. Proceed as directed in other packs.

H. Tubbing:

1. Types:
 - a. Tepid, temperature 85 degrees F.
 - b. Warm, temperature 90 to 100 degrees F.

2. Articles necessary :

- a.* One long rubber sheet.
- b.* Tubbing sheet.
- c.* Two blankets.
- d.* Muslin sheets.
- e.* Three towels.
- f.* Two moistened compress cloths.
- g.* Basin with extra amount of ice.
- h.* Drinking water with drinking tube.
- i.* Siphon (a large rubber tubing) and sea sponge.
- j.* Prepared hot water can.
- k.* Alcohol, 50 per cent.

3. Method :

- a.* Take and record pulse.
- b.* Remove covers and gown as in bed-patient's bed.
- c.* Fold together and place under patient :
 - 1. Blanket.
 - 2. Rubber sheet.
 - 3. Tubbing sheet.
 - 4. Muslin sheet, placing this sheet cross-wise of bed.
- d.* Place towel over hips and wrap patient in muslin sheet ; fold top blanket about feet.
- e.* Roll sides of tubbing sheet toward the patient and tie corners to the four corners of the bed.
- f.* Cold compresses to head.
- g.* Pour in water, avoiding the patient's face.
- h.* Use friction on the body.
- i.* Reduce temperature of water by using ice,

but do not allow the ice to remain in one place or too close to the patient's body.

- j.* Give water to drink freely.
- k.* One nurse turns and supports patient, on one side, having the patient covered with blanket, which was folded about the feet. Iron patient's back with ice.
- l.* The second nurse removes ice and the water with siphon and sea sponge.
- m.* Remove rubber and muslin sheets and dry body.
- n.* Allow patient to remain one-half hour between blankets with hot water can to feet and cold compresses to head.
- o.* Take pulse and record, every ten minutes during the entire bath.
- p.* The bath itself should not take more than 15 to 20 minutes.
- q.* Give alcohol rub and make bed.
- r.* Take temperature, pulse and respiration, record and note general conditions.
- s.* This treatment is usually given typhoid patients, therefore observe typhoid precautions.

BATHS FOR ELIMINATION

A. Object:

- 1. To relax muscular tension.
- 2. To act as a nerve sedative.
- 3. To change the circulation.
- 4. To induce perspiration and elimination.
- 5. To afford comfort to the patient.

B. General instructions:

1. Apply cold to the head and keep the feet warm, thus preventing the dilatation and congestion of the cerebral blood-vessels.
2. *Avoid burning the patient.*
3. Watch for symptoms of heat prostration:
 - a. Soft, weak, irregular pulse.
 - b. Giddiness, flushed face, sighing respiration.
4. Avoid exposing patient while the covers are being removed.
5. Give plenty of hot drinks, unless liquids are restricted.

C. Types:

1. Hot tub bath.
2. Hot pack.
3. Hot-air bath.
4. Alcohol sweat.
5. Medicated bath.

D. Record:

1. Hour; kind of treatment; condition of patient during treatment; result.
2. Take and record pulse; observe the condition of the patient every 15 minutes for baths and packs and every 10 minutes for alcohol sweats and hot-air baths.

E. Hot tub bath:

1. General instructions:
 - a. Avoid having the temperature of the room too low.
 - b. Never raise the temperature of the water while the patient is in the tub, except by

adding from some receptacle and not by means of the hot water inlet.

- c.* Watch for giddiness or faintness.
 - d.* If faintness occurs and the patient is not too heavy, remove patient from tub and put to bed ; if patient is heavy, allow the water to drain from the tub, place patient in a reclining position until the heart action is restored.
 - e.* If using a hot tub bath for a child, never place the small tub on the stove and the baby or child in the tub while on stove.
2. Articles necessary :
- a.* Two blankets.
 - b.* One muslin sheet.
 - c.* Rubber sheet.
 - d.* Towels.
 - e.* Rubber ring in pillow case or other support for head.
 - f.* Basin with ice and compresses.
 - g.* Prepared hot drink, usually lemonade.
 - h.* Wheel chair.
 - i.* Hot water can.
 - j.* Alcohol.
3. Method :
- a.* Drape patient with sheet and protect with blanket.
 - b.* Assist patient into wheel chair.
 - c.* Prepare the bed, protecting same with rubber sheet and blanket and open for the return of patient ; have hot water can at foot.

- d.* Have tub filled with water, temperature from 95 to 105 degrees F.
- e.* Assist patient into tub.
- f.* Cover tub with blankets, pinning closely about neck.
- g.* Support head with rubber ring. Apply cold compresses.
- h.* If patient is unable to recline in the tub because of its shape or size, a hammock can be made with a sheet tied to the plumbing so as to support the back.
- i.* Allow patient to remain in tub for 10 minutes.
- j.* Remove, wrap in warm blanket and wheel patient to bed. Cover well.
- k.* If patient does not respond readily, use a steam inhalation to assist in inducing perspiration.
- l.* Continue cold to the head, heat to the feet, keep well covered, and give hot drinks. Leave in blankets for 30 minutes.
- m.* See that the room is well ventilated; if the patient sleeps, do not disturb but watch character of pulse, amount of perspiration and general condition.
- n.* Remove blankets and rubber sheet, dry body, give alcohol rub.
- o.* Put on gown, cover well and allow patient to rest.

F. Hot pack:

1. Articles necessary:

- a.* Five blankets; one worn woolen.

- b.* Rubber sheets; 2 long, 1 short, 1 small square.
- c.* One clean muslin sheet.
- d.* Cold moist compresses in basin with ice.
- e.* Towels.
- f.* Hot drink and drinking tube.
- g.* Prepared hot water can.

2. Method:

- a.* Know that there is boiling water ready.
- b.* Take and record pulse.
- c.* Proceed in protecting bed as in giving a warm pack.
- d.* Fold the worn woolen blanket as a sheet is folded for a cold pack.
- e.* Wring this woolen blanket from the boiling water as follows: keep the folded ends of the blanket dry by hanging them over the edge of the tub and pour the boiling water over the balance of the blanket which is in the tub. Two nurses wring out the blanket, each grasping an end and turning it in opposite directions.
- f.* Fold this blanket in the small rubber sheet, place in a basin and carry to the bedside.
- g.* Remove the hot blanket from the sheet, shake it slightly and cover the patient with the same. Allow no surfaces of the body to come together, tucking it in well between the arms and the body and between the legs.

- h.* Cover with long rubber sheet, blankets, bringing the under rubber sheet up over the shoulders and tucking the upper rubber sheet well under the shoulders. See that the blankets are well tucked in about the neck and sides of body.
- i.* Change compresses on head frequently.
- j.* Give hot drinks freely unless liquids are restricted.
- k.* Take pulse every 15 minutes.
- l.* Allow patient to remain in pack for 45 minutes.
- m.* Remove as in the after care of a warm pack, being careful not to expose the patient.
- n.* Rub patient dry.
- o.* Allow patient to remain between dry blankets for one-half hour, leaving two over and one under the patient. Roll the sides of the blankets closely to the body.
- p.* Sponge with warm water, dry, rub with alcohol.

G. Hot-air bath:

1. Articles necessary:

- a.* Six blankets.
- b.* Rubber sheets; 2 long, 1 small.
- c.* Towels; safety pins; cold moist compresses.
- d.* Two cradles.
- e.* Board with hole for pipe to be placed at foot of bed.

- f.* Hot-air pipe covered with asbestos.
 - g.* Alcohol lamp, filled and placed in a bucket.
 - h.* Matches.
 - i.* Hot drink.
 - j.* Alcohol.
 - k.* Articles for cleansing bath.
2. Method:
- a.* Take and record pulse.
 - b.* Fold and remove bed covers, placing blanket over patient.
 - c.* Place rubber sheet and blanket under patient.
 - d.* Fold upper blanket even with sides of patient and place cradles so as to support the bed-clothes over full length of body.
 - e.* Place board, for pipe, at foot of bed.
 - f.* Place blanket, rubber sheet and then three blankets over cradles.
 - g.* Fold the first blanket over the feet, to keep the heat from coming into direct contact with the skin.
 - h.* Place alcohol lamp in bucket and light.
 - i.* Adjust pipe over lighted lamp with the arm through the hole in the foot-board, folding the blankets and rubber sheets about it, closely.
 - j.* Pin the lower blanket about the neck with safety pins.
 - k.* Tuck the upper blankets closely over the under blanket.
 - l.* Fold the rubber sheet and blankets as in the hot pack.

- m.* Place extra blankets and sheet over all.
- n.* Change cold compresses on head frequently.
- o.* Take pulse and record every 10 minutes.
- p.* Give hot drink frequently.
- q.* Allow patient to remain in hot-air bath for one hour.
- r.* Remove as from hot pack.

H. Alcohol sweat:

1. Articles necessary:

- a.* Six blankets.
- b.* Rubber sheets; 2 long and 1 small.
- c.* Towels.
- d.* One muslin sheet.
- e.* Safety pins.
- f.* Cold moist compresses in basin with ice.
- g.* Hot drink and drinking tube.
- h.* Alcohol.
- i.* Seven bricks, evenly heated as hot as possible without "hissing," covered with woolen bags.
- j.* Articles as for cleansing bath.

2. Method:

- a.* Take and record pulse.
- b.* Fold and remove bed covers and at the same time place blanket over patient.
- c.* Protect pillow with towel and small rubber sheet.
- d.* Place under patient, blanket, rubber sheet and blanket.
- e.* Fasten under blanket around patient's neck with safety pin.

- f.* Cold compresses on head.
- g.* Place rubber sheet over blanket.
- h.* Fold covers back from one side and draw under blanket into double fold alongside of body.
- i.* Place three bricks on blanket, outside of fold, and one at feet, the width of the hand from any portion of the patient's body.
- j.* Raise rubber sheet and blanket and pour 1 ounce of alcohol on each brick.
- k.* Cover quickly with the edge of the blanket.
- l.* Fold the first blanket, that is over the patient, under the bricks, being careful to lift the bricks and not to push them. Be very careful that the bricks are not near enough to the body for the escaping steam to burn the patient.
- m.* Repeat on the opposite side.
- n.* Complete by placing the two extra blankets and muslin sheet over the patient.
- o.* Give hot drinks frequently, if not restricted.
- p.* Take pulse every 10 minutes and record.
- q.* Allow patient to remain in sweat for one hour.
- r.* Remove as from hot pack.

I Medicated bath:

I. Mustard:

- a.* Put one-fourth pound of mustard into a muslin bag, tie and place it in a tub of

FIG. 22.



FIG. 23.

FIG. 22.—Portable electric light frame for giving sweat baths, used instead of hot bricks.

FIG. 23.—Sweat bath frame covered, with water glass and ice packs for head, on bed-side table.

warm water, making about 15 gallons of mustard solution.

- b.* Patient to be placed in bath and upon removal sponge the body quickly, with clear water, to remove any particles of mustard and dry.
- c.* Allow patient to remain between blankets for 30 minutes.
- d.* In case the patient is not able to be placed in bath tub, the patient can be prepared and cared for in the same manner as in giving a warm pack, using a blanket wrung out of mustard solution instead of wrung out of boiling water.

SWEAT BATH

A frame is made of gas piping, carrying eight shielded electric light bulbs. (Figs. 22 and 23.)

A. Articles necessary:

1. Three long rubber sheets.
2. Four blankets.
3. Electric light frame.
4. Prepared hot water can.
5. Moist, cold compresses.
6. Hot drinks.

B. Method:

1. Take and record pulse.
2. Remove bed-clothes, as for general bath.
3. Protect bed with long rubber sheet, under patient.
4. Place patient between blankets; allow pillows according to patient's condition.

5. Place frame in position over body, covering it with 2 blankets and 2 rubber sheets, placed lengthwise.
6. From the opening at the foot of the frame, withdraw the blanket covering the patient.
7. Turn on the lights and regulate the temperature to 90 to 100 degrees F.
8. Place hot water can to feet.
9. Fold bottom blanket and rubber sheet upward over lower edge of frame. Fold the blankets over shoulders and feet. Fold the covers over the frame, under the sides of the frame, under the neck and feet of patient.
10. Finish with extra blanket over frame and spread.
11. Change cold compresses on head frequently and give hot drinks.
12. Watch patient's condition carefully and take and record pulse every 10 minutes.
13. Allow patient to remain in sweat from 35 to 45 minutes.
14. Turn off lights, remove frame and blankets, and wrap in blankets for one-half hour.
15. Make up patient as usual. Record length of sweat and results.

CHILD'S BATH

A. Articles necessary:

1. For child:

- a. Tray containing soap solution, powder, boric solution, albolene, applicators, cotton pledgets, needle, thread, thimble, scissors, comb, brush.

13. Cut nails, when necessary, to avoid scratching.
14. If female child, separate labia, cleanse parts with applicator and albolene.
15. If male child, retract foreskin, remove all substances with applicator and albolene.
16. Use of powder depends upon doctor in charge.
In many cases, powder is used to cover up carelessness.
17. Put on shirt, and fasten by sewing it, stockings, diaper.
18. Put on underskirt and dress together, over feet.
19. Turn child on abdomen and sew or tie clothing.
20. Safety pins are only used in diaper and perhaps on stockings.
21. Place in bed, see that the child is warm.

D. Record:

1. Stools.
2. Urinations.
3. Discharges.
4. Weight before bath.

INFANT'S CLEANSING BATH

A. Articles necessary:

1. Clothing.
 - a. Dress.
 - b. Petticoat.
 - c. Shirt.
 - d. Band.
 - e. Diapers.
 - f. Safety pins.

2. Towel and washcloth.
3. Bath apron.
4. Basket for soiled clothing.
5. Toilet articles :
 - a.* Tub, slab or table.
 - b.* Water 105 degrees F. and soap.
 - c.* Albolene.
 - d.* Cotton and gauze
 - e.* Applicators.
 - f.* Saturated solution of boric acid.
 - g.* Witch hazel for buttocks.
 - h.* Sterile talcum powder and shaker.

B. Method:

1. Bathe on lap or table, table or slab preferable.
2. Have all articles ready.
3. To undress baby : turn face downward, untie garments, turn on back and remove garments over feet (Fig. 24).
4. Place clean diaper under baby.
5. Wrap in bath apron, restraining the hands in same.
6. Wash face and pat dry.
7. Soap and wash head, holding it over tub.
This is all the soap that is used.
8. Rinse well and dry.
9. Unwrap baby, place left hand under head and shoulders.
10. Grasp feet with right hand and put baby in tub.
11. Hold in such a manner that it floats, rather than to have it rest on the buttocks.
12. Dash water over baby with cloth, paying particular attention to creases.



FIG. 24.—Nursing in connection with maternity department, showing morning care of babe.

13. Spread towel smoothly over lap, again grasp feet and lift from water.
14. Place towel and apron over baby and pat until dry.
15. Dry creases carefully.
16. Dry navel with applicator.
17. Use absorbent cotton, powder and a gauze compress over navel.
18. Apply shaker flannel band.
19. Put on two diapers, shirt, petticoat and dress.
20. Cleanse nose with applicator dipped in albolene.
21. Irrigate eyes with boric acid solution.
22. Place in crib and turn skirt over feet. Dresses and skirt are made long for this purpose.
23. Nothing is done to the mouth as long as it is clean.
24. A baby should be turned but four times during the entire operation.

CHAPTER IV

PATIENT

CONTENTS OF NURSE BASKET

Each student nurse is responsible for her own basket, which is to be left in perfect order after each time it is used.

A. Object:

To have necessary articles for morning toilets and baths, thus saving time and effort and promoting efficiency.

B. Articles necessary:

1. Small rubber sheet to protect pillow.
2. Towels and washcloths.
3. Paper bags or cornucopias made from newspaper.
4. Soap in dish, whisk broom, hand brush.
5. Mouth wash in glass, labelled, covered, and fresh solution and sponges each morning.
6. Combs, fine and coarse.
7. Alcohol, 50 per cent.
8. Vaseline.
9. Castor oil.
10. Talcum powder.
11. Stearate of zinc or boric powder, if necessary.
12. Tongue depressors, if necessary.

CHARTING AND RECORDING

A. Object:

1. To keep an exact record of a patient's condition.
2. To aid the physician in arriving at a correct diagnosis.
3. To aid in following the course of a disease.

B. Types:

1. History of all patients upon admission.
2. Daily record sheet, on which is recorded all symptoms, treatments and diets.
3. Temperature charts.

C. General instructions:

1. Record and chart accurately, concisely and neatly.

D. Method:

1. History sheets ; lettered in *black ink*.
 - a. Two nurse's record sheets : fill out number of ward, name, date, A.M. or P.M., hour of admission to hospital, manner of coming to ward, temperature, pulse, respiration and general condition.
 - b. One doctor's first record sheet with patient's history, ward number, date, hour of entrance to hospital, age, occupation, religion, attending doctor's name, senior and junior internes' names and name of the nurse.
 - c. Doctor's record sheets, as many as are required, without patient's history.
 - d. One standing order sheet.

- c. One temperature chart, in Medical Ward, if patient is on charting list.
2. Record sheets: lettered in *black ink*:
 - a. Ward number and name of patient.
 - b. Date in spaces as marked for same with temperature and pulse, making a dash in spaces for hour and pulse.
 Ex.: Date. Hr. T. P. R.
 9 — 11 — '17.
 - c. A.M. or P.M. on line below, in space for hour.
 - d. Hour under hour.
 - e. T. P. R. in spaces so marked; rectal or axillary temperature marked with A or R just below the line of temperature; the number of tenths of a degree above figures, as 102 $\frac{4}{R}$
 - f. All remarks and treatments on the left side of the space so marked.
 - g. All diets with the exact amount of liquids taken (if patient is on liquid diet) on right side of same space.
 - h. All defecations and urinations in spaces marked Def. and Ur.
 1. The amount of urine and defecations from typhoid and pneumonia cases to be recorded at once.
 2. Those on the four-hour temperature list to be recorded at 4 A.M. and 4 P.M.
 3. Those not on the four-hour list to be

recorded A.M. and P.M. The general condition of the patient is to be recorded at the same time.

4. The amount of urine is to be recorded for all patients
 - a. While in the recovery room.
 - b. For all typhoids, until the temperature has been normal for at least five days.
 - c. For all uremia cases.

Record sheets, lettered in *red ink*:

- a. All medication (including all saline or tap water enemata to be retained), noting time, amount, how given and whether retained or expelled.
 - b. Daily summary of hours, amount of liquid taken. These to be recorded between the lines drawn with *red ink*, following the last record made up to midnight.
3. Clinical charting:
 - a. Letter in black ink on four-hour temperature chart:
Name of patient.
Date.
Number of ward.
Time of day—A.M., P.M.
Hour, 8, 12, 4, 8.
Pulse and respiration.
Kind of treatment given in hyperpyrexia, lettering from above the 106-degree line, in the space of time, when

given. Dot and dotted connecting lines, showing temperature after each treatment, dotted directly from temperature taken just previous to treatment.

b. Letter in red ink:

All dots and straight lines of all temperatures.

On admission chart, a line from left hand marginal line to dot showing admission temperature.

“On admission” lettered directly above and from that line at left of marginal line.

c. Letter in black ink on daily chart:

All headings, as above.

A.M. and P.M. in space between lines, opposite hour.

Pulse and respiration.

d. Letter in red ink on daily chart:

All dots and connecting lines showing temperature, using one space for A.M. and one space for P.M. temperature. Chart for two weeks after admittance.

TEMPERATURE, PULSE, RESPIRATION

A. Time when taken:

1. Every four hours.

a. All new patients.

b. Patients as ordered by attending physician.

c. All patients with temperature of 100 and above.

2. Afternoon: all patients not on the four-hour list.

B. Object:

1. To obtain actual knowledge of the physical condition of the patient by comparison with normal conditions.
2. As an aid in making a true diagnosis and prognosis in disease.

C. General instructions:

1. Observe accurately.
2. Know the relative value of facts as observed.
3. Be able to describe these conditions accurately.

D. Temperature:

1. Normal temperature of adult is from 98 to 99 degrees F., maintained by a balance between heat production and heat elimination.
2. Varies slightly with age, time of day and temperament.
3. Increased by excitement, exercise and the absorption of food and toxins.
4. Decreased by sleep, rest, lowered vitality, perspiration and exposure to cold.
5. Deviations above normal:
 - a. Slight fever, 99 to 100 degrees F.
 - b. Fever, 100 to 103 degrees F.
 - c. Pyrexia, 103 to 106 degrees F.
 - d. Hyperpyrexia, 106 degrees F. and over.
6. Deviations below normal:
 - a. Subnormal, 97 to 98 degrees F.
 - b. Collapse, 95 to 97 degrees F.
 - c. Algid collapse, 95 degrees and below.

E. Pulse. An intermittent distention and contraction of an artery due to a wave of blood being forced through it, because of the contraction of the heart.

1. Found wherever an artery comes near the surface:
 - a.* Wrist, radial.
 - b.* Side of neck, carotid.
 - c.* In front of ear, temporal.
 - d.* In children, take pulse on ankle, dorsalis pedis.
2. Pulse rate:
 - a.* Men, 60 to 70.
 - b.* Women, 70 to 80.
 - c.* At birth, 120 to 140 (DeLee), 130 to 160 (Pope).
 - d.* Children between 1 and 7 years, 80 to 120.
 - e.* Children over 7 years, 80 to 90.

F. Respiration:

1. Object:
 - a.* To remove carbon dioxide from the blood.
 - b.* To supply oxygen to the blood.
 - c.* To carry off waste materials which result from combustion going on in the tissues.
 - d.* Removes heat from the body.
 - e.* Assists in the circulation of the body fluids.
2. Rate:
 - a.* Normal: ratio of respiration to pulse 1 to 4.
Man, 16 to 18.
Woman, 18 to 20.

Infants, 38 to 44 (DeLee).

Children, 20 to 25.

G. To take temperature:

1. General instructions:

- a.* See that the mercury in thermometer is as low as 95 degrees F. before using it
- b.* If patient has had a hot or a cold drink, do not take temperature for twenty minutes afterwards.
- c.* Never use thermometer that has been used for a patient with an infectious disease for another patient, without disinfecting it.
- d.* Never use a rectal thermometer for taking temperatures by mouth. When possible, use colored or larger bulbs for rectal temperature.
- e.* Take temperature, per rectum, of a child, delirious or unconscious patient, or of one breathing through the mouth.
- f.* Do not leave children, hysterical or delirious patients alone while taking temperature.
- g.* When temperature is taken by mouth, the patient should be warned to avoid biting off the end of the thermometer. In case this accident happens, every particle should be saved and the accident reported to the head-nurse at once.
- h.* In shaking down the mercury in a thermometer, avoid any motion near the patient, bed frame, chair back, etc., or giving the thermometer a sudden jar.

- i.* Avoid putting any thermometer under running hot or cold water.
- j.* The thermometer basket must always be left clean, with plenty of fresh solution



FIG. 25.—Thermometer basket and ice cap rack.

and the allowed number of thermometers (Fig. 25).

- k.* Never allow patient to insert rectal thermometer.
- l.* Never take temperature per rectum, if rectum is diseased.

2. Articles necessary:

a. An accurate open-faced watch.

b. For taking mouth temperature:

Thermometer basket with four glasses:

One with a small quantity of cotton,
carbolic, 5 per cent., thermometers.

One with a small quantity of alcohol,
50 per cent.

One with clean cotton pledgets.

One empty glass for soiled cotton
pledgets.

c. For taking rectal temperatures:

Thermometer basket with four glasses:

One with a small quantity of cotton,
bichloride of mercury solution 1 to
1000.

One with clean cotton pledgets.

One with sweet oil for lubrication.

One empty glass for soiled pledgets.

3. Method:

a. Mouth temperature:

1. Remove thermometer from carbolic
solution, dry with cotton.

2. Place in alcohol.

3. Dry with clean cotton.

4. See that the mercury stands 95 de-
grees F. or below.

5. Place thermometer under tongue of
patient.

6. Allow thermometer to remain in
place one full minute and with
the lips closed.

7. Remove, wipe, read, shake down the mercury to 95 degrees, place in carbolic solution and record.
 - b. Axillary temperature: this temperature registers about one degree lower than the mouth temperature:
 1. Dry axilla.
 2. Place thermometer, prepared as for mouth temperature, in axilla and draw the arm over chest to form closed cavity, being careful that no fold of gown is left in axilla.
 3. Leave in axilla for five minutes.
 4. Remove, clean, read, shake down the mercury to 95 degrees, place in carbolic solution and record.
 - c. Rectal temperature: this temperature registers about one-fourth degree higher than the mouth temperature:
 1. Remove from bichloride of mercury solution, 1 to 1000.
 2. Dry and see that the mercury is as low as 95 degrees F.
 3. Place in oil.
 4. Insert in rectum, leaving for five minutes.
 5. Clean, read, shake down, place in bichloride solution, record.
- A rectal temperature is to be indicated by placing a capital R to the right and just below the line of the temperature record.

An axillary temperature is to be indicated with a capital A, placed in the same position.

All temperatures over 100 or below 97, or unusual changes in pulse and respiration, must be listed and reported to the head-nurse at once.

A report of abnormal temperatures must carry a record of the pulse and respiration.

A list of "No defecations and urinations" must be handed to the head-nurse after the P.M. temperatures have been taken.

Example:

Bed.	T.	P.	R.	Def.	Ur.
5	104	140	40	0	0
45			No def. for 2 days.		

H. To count pulse:

1. General instructions:

- a.* Be sure that the watch is accurate.
- b.* Be alert.
- c.* Cultivate a sense of touch and rhythm.
- d.* Be sure the hands are warm and dry, for the patient's comfort.
- e.* Learn to count accurately, with three fingers along the path of the artery.

2. Method:

- a.* Place the index, middle and third fingers along the path of the artery, making slight pressure.
- b.* Continue the fingers on the artery for one-half minute, to get the rhythm of pulse while counting the respirations of pa-

tient, without his knowledge of this being done.

- c.* Count pulse for one whole minute, divided into quarters, noting whether or not there is the same rate in each quarter.
- d.* When accuracy has been developed, one may count for one-half or for one-fourth minute, except when the patient is very ill, when the full minute is advisable.
- e.* Record.

I. To count respiration :

1. General instructions :

- a.* Be sure that the watch is accurate.
- b.* Observe accurately.
- c.* Count without the patient's knowledge.
- d.* Respirations which number above 40 and below 10 indicate a serious condition, and must be reported to the head-nurse at once.

2. Method :

- a.* Place fingers on wrist as if counting pulse, to prevent patient realizing that the respirations are being counted.
- b.* Count the rise and fall of chest or abdomen for one-half minute and double the count for one minute.
- c.* Record.

TO PLACE AND REMOVE A BED PAN

- 1.** Always have the bed pan clean, warm and covered.
- 2.** Flex patient's knees.
- 3.** Support the back by slipping one hand under the

sacrum and with the other hand place the bed pan in position.

4. Know that the bed pan is in proper position, either by sight or touch.
5. If necessary for the comfort of a thin patient, place a piece of cloth on the pan, to protect the back.
6. For the comfort of a very sick patient, place a folded bath towel or a small pillow under the small of the back.
7. Cleanse and dry vulva and rectum.
8. In removing the bed pan, support the back by slipping one hand under the sacrum and with the other hand remove the bed pan.
9. When the gown is long, pull it down under the back, after removing the bed pan, and leave it without wrinkles and adjust the bed-clothes.
10. In giving urinal, lift the bed-clothing at the side of the bed and place the utensil within easy reach of patient's hand.
11. Always leave the body and bed linen clean and dry.
12. Always have the bed pan or urinal covered when it is being removed to the utility room.
13. Note and record contents of bed pan and urinals.

TO MAKE AN OCCUPIED BED

A. Object:

1. To meet the needs of the patient.
2. To keep the bed dry and clean.
3. To keep the bed free from wrinkles.
4. To make the patient comfortable (Fig. 26).

B. General instructions:

1. Have all necessary articles ready, including



FIG. 26.—Morning airing of bed.

clean linen, nurse basket, and other articles as for making an empty bed.

2. Avoid jarring the patient.
3. Avoid having the covers uncomfortably tight.

C. Method:

1. Loosen all bed covers from the sides of the bed, not by reaching over the patient.
2. Remove bedding, as follows:
 - a. Fold and remove spread.
 - b. Fold and remove extra blankets.
 - c. Remove extra pillows, allowing one or two only.
 - d. Allow the second blanket to remain in place.
 - e. Fix the blanket by having the patient hold the upper border or tuck it under the shoulders. Fold the upper border of the upper sheet toward the foot of the bed; then fold it a second time from the centre toward the foot and withdraw it from the foot of the bed.
3. Move patient to one side of bed, or better, turn on side, flexing the knees and making comfortable.
4. Place soiled draw sheet in irregular folds along the body.
5. Brush rubber draw sheet and, if moist, dry.
6. Turn rubber draw sheet over patient's body.
- 7. Place lower sheet in irregular folds close to patient's body.
8. Brush mattress; dust bed frame.

9. Unfold the clean sheet, not allowing it to touch the floor.
10. Place over mattress, having centre fold in the centre line of bed, the same as in making an empty bed, making irregular folds of the further half of the sheet, fitting it closely to the folds of the sheet to be removed.
11. Tuck in the lower sheet and square the corners as for an empty bed.
12. Bring down the rubber draw sheet and tighten, cover with draw sheet, having the centre fold of sheet in centre line of bed and tucking the balance of the sheet under the mattress as far as possible.
13. Turn or move the patient to clean side of bed.
14. Always turn the patient toward you, having the body beyond the centre of the bed and support with one hand while the other hand is used in flexing the knees, seeing that the patient is well balanced and comfortable.
15. If the patient is irresponsible, he should never be left without being guarded in some way.
16. The nurse passes to the other side of the bed.
17. Remove draw sheet.
18. Dry, straighten and turn rubber sheet over patient's body.
19. Remove lower sheet, brush mattress, dust bed frame.
20. Make up this side of bed the same as the first was made.
21. Put on clean gown.

22. Replace the covers, squaring the corners.
23. Adjust pillows.
24. Time allowed will depend upon the condition of the patient.

D. To change pillows:

1. To remove:

- a. Slip one arm under head, with hand under far shoulder blade, raise patient slightly.
- b. With free hand remove pillow by drawing it out from the opposite side of the bed, then placing it on the near side of the bed; remove arm from under head.

2. To replace:

- a. Place pillow in nearly upright position at head of the further side of the bed.
- b. Support patient, as above.
- c. With free hand, draw pillow under the head.

E. To change gown, under cover:

1. Open gown:

To remove when both arms are free:

- a. Untie and remove sleeve furthest from you.
- b. Slip gown over chest toward you.
- c. Remove other sleeve and draw from under cover.

To replace:

- a. Pass your hand through sleeve.
- b. Grasp patient's hand nearest you.
- c. Draw arm through sleeve.
- d. Proceed with second arm in the same way.

- e.* Tie close to the patient's body and leave without wrinkles.

To remove in case one arm is injured :

- a.* Remove the sleeve from the injured arm last and when replacing the gown, replace it first.

2. Closed gown :

To remove :

- a.* Have patient lie on back with knees flexed.
- b.* Draw lower edge of gown to hips.
- c.* If possible, have patient raise hips and then draw gown well up towards head. If patient is unable to raise hips, place one hand under hips, raise and draw gown up with free hand.
- d.* Lift shoulders with one hand and draw gown up about neck.
- e.* Have patient bend elbow and draw off sleeve of gown nearest you. Remove opposite sleeve, raise head and remove gown from over the head ; or, slip gown off over the raised head, having the arms raised above the head, and then slip both sleeves from arms.

To replace :

- a.* Draw on one sleeve, usually on the injured arm first, then draw the body of the gown over the head, then draw on the second sleeve. Or place both arms in the sleeves and then draw it over the head and put in place.

F. To make a bed-patient's bed, when the linen is not to be changed:

- a.* Remove the bed covers in order and place on chair.
- b.* Leave blanket over patient.
- c.* Remove pillows.
- d.* Turn patient on side.
- e.* Brush draw sheet and fold over patient's body
- f.* Brush rubber sheet and fold over patient's body.
- g.* Brush lower sheet and fold over patient's body.
- h.* Brush mattress.
- i.* Clean bed springs and dust frame.
- j.* Replace the linens in order, making them tight and smooth.
- k.* Turn patient to opposite side of bed and rub patient's back.
- l.* Proceed to opposite side of bed and make it the same as the first half.
- m.* Replace the bed covers and square the corners.
- n.* The covers of a bed-patient's bed should never be just turned back and the linens smoothed. Each article should be removed. This helps to air the bed linen, adds to the patient's comfort as well as having done a finished piece of work.

ENEMATA (CLYSTERS)**A. Object:**

1. To cleanse large intestine.
2. To destroy germs.
3. To contract tissues.
4. To relieve flatulency.
5. To soothe.
6. To afford nourishment.
7. To destroy worms.
8. To act as a sedative.
9. To stimulate.
10. To relieve thirst.

B. Types:

1. To be expelled:
 - a.* Colonic flushing and medicated purgative.
 - b.* Carminative.
 - c.* Antiseptic.
 - d.* Anthelmintic.
2. To be retained:
 - a.* Emollient.
 - b.* Nutritive.
 - c.* Stimulating.
 - d.* Sedative.
 - e.* Astringent.
 - f.* Enteroclysis.

C. General instructions:

1. Have all necessary articles in readiness.
2. Have correct solution and exact amount ordered.
3. Have temperature of solutions from 100 to 105 degrees F.

4. Do not hurry or use force when inserting an enema tip or rectal tube. There may be a nervous contraction of the sphincter muscle upon the insertion of the tip or tube. If this occurs, wait a few moments and then proceed.
5. If the rectal tube becomes clogged by feces, withdraw slightly and re-insert or remove and let the solution pass through it, then re-insert.
6. Always let the solution run slowly and if there is pain following, wait a minute or two by shutting off the flow and then proceed.
7. If a second enema is ordered because the first enema has not been expelled, siphon off the first fluid by inserting the rectal tube, allowing it to remain placed for not more than ten minutes.
8. In cases of impacted rectum, when it seems necessary to use the finger to break up the contents of the rectum, cover the finger with a finger cot, or if this is not available, fill the finger-nail with hard soap and have the finger well protected with vaseline.
9. In case the hands become odorous from care of patient, wash with soap and water, then with warm water and dry mustard for five minutes and rinse well.

D. Colonic flushing:

1. Articles necessary:
 - a. Blanket, rubber and small sheets for the protection of the bed.

b. Irrigator, rectal tube or enema tip, or pitcher and funnel.

c. Vaseline, toilet paper, bed pan and cover.

d. Solution as ordered. Solutions commonly used:

Soap suds, made from hot water and soap jelly. Never use laundry or "green" soap. The froth should always be removed.

Normal saline.

Medicated, as ordered.

2. Positions:

a. When patient is able to turn on side, place on left side, knees drawn up close to abdomen.

b. When patient is unable to turn on side, dorsal position with knees flexed.

c. Place in knee-chest position (genu-pectoral) only upon special order, and watch pulse.

3. Methods:

a. Place screens.

b. Place patient in position.

c. Protect bed with small rubber and muslin sheets. Turn down bed clothes, cover patient with blanket.

d. When using irrigator, place same about eight inches above the patient's body. Expel the air from the tube by letting the solution run through the tube into the bed pan until it runs warm. Pinch the tube tightly near the tip to be in-

serted. When funnel and pitcher are to be used, never allow the funnel to become empty and do not raise the funnel more than eight inches above the patient's body.

- e.* Lubricate the tip or tube with vaseline.
- f.* Lift the edge of blanket and gently insert the tip or tube, then withdraw slightly before allowing the solution to flow into the rectum.
- g.* High flushing, insert the rectal tube about two inches, allow the solution to flow while the tube is inserted about eight inches. Low flushing, follow the same procedure, except that the tube is inserted about four inches.
- h.* Allow the solution to flow slowly.
- i.* Clamp tube, remove the tip or tube quickly but gently and place it on paper. Keep the patient in the same position and encourage the retention of the solution for twenty minutes. Place patient on back and adjust bed pan.
- j.* After the enema has been expelled, remove bed pan and cover it.
- k.* Cleanse and dry the patient, make comfortable; ventilate room.

E. Medicated purgative enema:

- 1. Oil. Given to soften feces:

- a.* Sweet oil, 4 to 6 ounces, heated to 100 degrees F. in bowl.

G. General instructions :

1. The following are to be given with a catheter, funnel, pitcher, or graduate.
2. Not more than six ounces of any solution is to be given at one time, as more than this amount may excite peristalsis.
3. Solution is to be given very slowly.
4. Patient is to be kept quiet.
5. If there is a possibility of the enema being expelled, pressure may be made on the anus with a hot compress.

H. Emollient enema :

1. Starch enema.
 - a.* Dissolve one teaspoonful of starch in cold water.
 - b.* Add, slowly, six ounces of boiling water.
 - c.* Boil for one or two minutes ; cool to 100 degrees F.
 - d.* If opium is ordered, add it just before giving, not while heated.

I. Nutritive enema :

1. When nutritive enemata are given, a daily purgative enema should be given, at least one hour before the nutritive.
2. When peptonized milk is ordered, prepare properly in accordance with directions. Always warm this milk in a double boiler, never allowing it to be placed directly above a flame.
3. When egg white is ordered, cut it with scissors or a knife and add to the base.
4. When brandy or whiskey is ordered, add the

same to the base at the bedside. These often curdle the milk, upon standing.

5. A pinch of salt should be added to nutritive enemata.

J. Stimulating enema:

1. Watch pulse.
2. Warm, strong, black coffee, six to eight ounces, may be used.
3. Whiskey, one ounce, or brandy, one ounce, in warm normal salt solution may be used.

K. Sedative enema:

1. Chloral or bromides may be ordered, to be given dissolved in normal salt solution, warm, three ounces.
2. Always make the patient comfortable and ready for the night before giving a sedative enema.

L. Astringent enema:

1. Dissolve alum, gr. xxx, in hot water, one pint.

M. Enteroclysis:

1. Keep at least one quart of hot normal salt solution in irrigator.
2. Place can from six to fourteen inches above patient and regulate flow so as to permit one pint of solution to enter the intestines in sixty minutes.
3. Keep tube from irrigator on hot water bag near edge of bed, or the hot water bag may be tied about the irrigator or an electric light bulb or a bottle of very hot water may be placed in the solution to keep solution warm.

METHODS OF MAKING A PATIENT COMFORTABLE

A. General instructions for the nurse :

The nurse should work easily, smoothly, quietly and with long, even strokes, rather than with short, jerky or fussy movements.

The touch should be firm, gentle and effective.

Use the whole hand, not fingers only, in handling patients and have the hands smooth, warm and dry.

Never touch the bed unless there is a reason for it.

Avoid jerking or jarring a patient.

The voice should be modulated, never high-pitched, rasping or loud. Avoid whispering.

Never discuss a patient's condition in her presence, even though in coma.

Never discuss another patient's condition before any patient.

Do not startle patients by sudden noises or by an unexpected approach.

Satisfy the questions of patients, whenever possible, in accordance with good judgment and common sense.

Never go out of a room without leaving it in a better condition, more agreeable for the patient and with a happier atmosphere than when you entered.

Whenever possible, complete a piece of work, leaving it in a finished condition, before starting another piece of work.

When planning sleep and rest for your patient, consider the following points:

- a.* Voice : that it should be low but not whispering, and as little conversation taking place as possible.
 - b.* Shoes : that there should be rubber heels worn, that shoes should not be squeaky ; that the tread should be light, but not to walk on tip-toes.
 - c.* Leaky faucets or running water should be controlled.
 - d.* Windows and doors should be properly closed and opened, the rattling of windows and slamming of doors should be controlled.
 - e.* Hinges and castors can be oiled to avoid unnecessary noise.
 - f.* The plan of the rooms and the wind can be studied so that ventilation can be had without draughts.
 - g.* The temperature of the room always needs control.
 - h.* Turn out or shade bright lights from patient's eyes. Shield the eyes from the flicker of candlelight.
- When planning to lift and carry a patient, consider the following points :
- a.* In moving or readjusting a patient, always have all articles ready, warm, dry, and in a convenient place.
 - b.* Fold all bed and body clothes so that the patient will never be exposed or hampered by them.
 - c.* The nurse's feet should be placed far apart and well supported on the floor.

- d.* Her knees should be flexed and then straightened as the patient is lifted.
- e.* Always flex the body at the hips; the body does not flex at the small of the back and by attempting to bend the back and lift, the muscles of the back are unnecessarily strained.
- f.* When two persons are carrying a patient, always step in unison.
- g.* Do not lift the patient alone, if the patient is heavy or unmanageable.
- h.* When lifting a patient, reach beyond the centre of weight.
- i.* Remember that the shoulders and hips are the heaviest parts of the body and therefore give the best support to them.
- j.* When lifting, support the framework of the body and do not pull on the muscle and skin nor allow the hands to slip.

B. To lift and carry:

1. Dress patient in comfortable clothes or wrap in a blanket, protecting the feet.
2. Place one arm under patient's shoulder, with a firm hold under the opposite axilla.
3. Place opposite arm under thigh.
4. Have patient grasp shoulder of nurse.
5. Lift and hold on chest so that the patient's head is above the shoulder of the nurse.
6. When two nurses are lifting, they should both be on the same side of the patient, the tall nurse lifting the upper portion of the

body. Place one arm under the shoulder of the patient, the second arm under the hips. The second nurse places one arm under the lumbar region and the second arm supports the knees. Lift, carry, step, bend and lower patient, in unison.

7. When four persons are required for lifting and carrying, two persons should be opposite each other, the hands clutched together under the shoulders and the buttocks, the buttocks and the knees.

C. To lift patient toward head of bed:

1. Stand as previously directed. Place patient in dorsal position and, when possible, flex knees, with the soles of the feet flat on the bed. The palms of the hands may be placed downward on bed or be used to grasp the shoulders of the nurse, or the head of the bed.
2. Place right hand well under back, the heavy part of the patient's shoulder and back being supported with the upper arm and shoulder of the nurse; place the left hand below the hips.
3. Lift firmly and gently toward head of bed.
4. If two persons are required to lift, take same position as "To lift and carry" and lift toward head of bed.
5. If patient is able, have patient flex knees, then place one arm under the nurse's right arm and the other over the nurse's left shoulder.

In this way the weight will not be so great for the nurse, because the patient partially lifts herself.

6. To pull the mattress toward the head of the bed: flex the knees of the patient and have the patient grasp the rods at the head of the bed; the nurse stands at the head of the bed and grasps the sides of the mattress. The patient and the nurse draw up at the same time, placing the mattress in position with little effort for either. The mattress may be adjusted toward the foot of the bed simply by pulling the same.

D. To lift an injured leg or arm:

1. Never grasp an injured limb from above or change the position of a limb by grasping the fingers or toes.
2. Never place the hands directly under the injured portion.
3. When lifting an injured part, place both hands beneath the injured limb, on either side of the injury, and raise slowly and gently. If the entire body is being lifted and one person is responsible for the injured limb, it should be lifted so that the same position is continued as the body is in before the patient was changed in position.
4. In cases of fracture, before application of splint, the hands should make slight tension when lifting, so that the ends of the broken bone are kept somewhat apart.

E. To undress a patient in bed :

1. Protect bed with blanket.
2. Cover with blanket.
3. Remove shoes.
4. Loosen buttons, hooks, etc.
5. Loosen clothing from upper part of body, removing as many articles as possible, at one time.
6. Place clothing on back of chair.
7. Put on gown.
8. Remove clothing from lower part of body.
9. When garments cannot be removed whole, rip the seams rather than cut them.
10. Garments which must be opened all the way down, should be torn, not cut.
11. To remove tight-fitting shirts, remove as closed night gown.
12. If a portion of the body is injured, remove the clothing from the uninjured side, first.

F. To dress a patient in bed :

1. See that all articles necessary are warm, dry, in a convenient place and in the order of their adjustment.
2. If the garment is closed, like a shirt, first make a roll from the neck of the garment to the hem; draw on the sleeves, slip this roll over the head and beneath the shoulders. Draw it smoothly underneath the body.
3. If the clothing opens all the way down, draw on the sleeve on the side away from you, turn patient toward you.
4. Pull garment well up on the shoulder and

tuck the body of the garment closely underneath the back.

5. Turn patient on back and slightly to opposite side; draw the garment beneath the body, slip on second sleeve and adjust.
6. To put on a stocking: turn leg of stocking back over the foot. Draw on the foot and then draw the balance of the stocking up on the leg. Do not pull at the top.

G. To place a back-rest:

1. Place the folded back-rest at head of bed, back of pillows, or pillows removed, if permissible, in such a way that it can easily be brought under the head and shoulders of the patient.
2. Stand on left side of bed and raise patient to a sitting position. Support patient with the arm in front of patient's chest and over the shoulder, with the patient's head against the shoulder of the nurse.
3. With the free hand withdraw all of the pillows, draw down the back-rest and fasten.
4. Adjust the pillows to cover the lower edge of the back-rest, making it comfortable by filling in the hollow places with small pillows or pads.
5. A back-rest may be made from a sheet by folding it diagonally and placing the apex under the patient, bringing the base up around the shoulders. The patient being raised to a sitting position, the corners of the sheet may be fastened to the foot of the bed. This will not do for a very heavy patient.

H. Supports:

1. A blanket, rolled over a strong bandage, protected by a small rubber sheet and covered with a muslin sheet, relieves abdominal tension when placed under the knees. The ends of the bandage should be long enough to tie to the head of the bed or to the springs at the sides of the bed.
2. A pillow, protected with a rubber cover, and a muslin sheet or pillow case, may be used in supporting the feet or raising the bedclothes from the toes.
3. When a patient is able to help herself, a strong bandage, three or four inches wide, of ticking, may be tied to the bar at the foot of the bed. The patient may hold to this for support while a back-rest is being adjusted or may raise herself into the sitting position.
4. Bedclothes can be raised from any part of a patient's body by the use of cradles. These are made by crossing two half circles, such as from barrel hoops, covered with bandages.
5. To avoid foot drop, a piece of heavy canvas can be sewn to two uprights of a cradle, the support padded and bandaged to fit the feet, the cradle held in position with bandages so that the feet will be supported.

I. To readjust pillows:

1. Slip arm under the patient's shoulder and back, raise, and turn or rearrange the pillows.
2. Pillows can often be comfortably arranged by placing them in the form of an inverted V,

with the pillows overlapping at the apex, Δ , for the support of the head, and the back resting on the mattress.

J. To place patient in Fowler's position:

1. Elevate head of bed to the required height, by means of mechanical adjustment or by putting it on a protected table or chair.
2. See that the support is firm. If the legs of the bed are elevated on blocks of wood, have the castors removed, or better, have hollow places made in the top of the blocks, large enough to fit the castors.
3. Prevent the patient from slipping down in bed by placing a trough-shaped support, made of boards, under the mattress at the knees.

K. To move patient from one side of bed to the other:

1. Flex knees of patient.
2. Place one hand and arm, obliquely, under the patient's back, carrying the hand well down under the back so that the patient's shoulder rests in the hollow of the nurse's shoulder.
3. Slip opposite hand well under back, just below shoulders.
4. Draw the upper part of the body toward you.
5. Slip one hand under lower part of back, the opposite hand just below the hips and draw the lower part of the body toward you.

L. To turn patient without draw sheet:

1. Stand at the side of the bed toward which the patient is to be turned.
2. Carry the arms over the patient's body, slip-

ping one hand under the shoulder and the other under the hip.

3. Gently but firmly roll patient toward you, being careful that the patient is lying squarely and comfortably on shoulder and hip. The lower leg should be extended and the upper leg flexed and resting on the bed for partial support.
4. In case the patient is to be left on the side, the hips should be moved toward the centre of the bed.
5. A small thin pillow may be placed between the knees or under the abdomen.
6. If desired, a pillow may be placed lengthwise from shoulder to hip, having less feathers in the side of the pillow next to the patient, then folded and tucked well under the back, for support.

M. To turn a patient with a draw sheet:

1. Have the draw sheet under shoulders and hips.
2. Patient must be near the centre or further side of bed.
3. Grasp the ends of the draw sheet from the far side of the bed and turn the patient toward you.
4. Patient may be supported as directed above.

N. To turn patient with lifting sheet:

Fold a strong sheet lengthwise twice and again, crosswise. Placed under a patient in the same manner as a draw sheet is placed, it is helpful in lifting a patient toward the head of the bed,

on the bed-pan, into a wheel chair and also to turn on side.

O. To get patient up in chair:

1. General instructions:

- a.* If a patient is gotten up out of bed for the first time, take pulse before and after getting her up.
- b.* Do not allow patient to sit up for more than 20 or 30 minutes, the first attempt.
- c.* Place chair parallel with bed, the back of the chair toward the head of the bed or the foot of the bed, or the back of the chair against the foot of the bed, thus being in the same line. If the chair is to be placed at right angles with the bed; this is preferable at the foot.

2. Articles necessary:

- a.* Chair.
- b.* Two pillows.
- c.* Two blankets.
- d.* Slippers.
- e.* Safety pins.

3. Method:

- a.* Arrange chair with blankets and cushions.
- b.* Place pillow at back, with open ends of pillow case downward.
- c.* Place blanket, diagonally, over all.
- d.* Place second blanket, lengthwise, over bed.
- e.* Fold down covers in the usual way.
- f.* Wrap patient in blanket, which reaches to axilla.

- g.* Put on slippers.
- h.* Assist or lift into chair.
- i.* For protection or comfort, cover shoulders with cape or extra blanket.
- j.* Fold blanket over feet and pin securely.
- k.* Support feet on stool if desired.
- l.* Count pulse as soon as patient is up and again within 10 minutes or 15 minutes.

P. To move patient from one bed to another:

- 1. Beds of equal height:
 - a.* Remove top covers, leaving blanket over patient.
 - b.* Loosen draw sheet, folding it back on side of bed nearest second bed. Move patient to edge of bed.
 - c.* Tuck other side of draw sheet about patient.
 - d.* Have second bed without draw sheet.
 - e.* Place beds close together, fasten them securely.
 - f.* Standing on further side of second bed, move patient over by pulling the draw sheet and patient.
- 2. Beds of unequal height. Two nurses required.
 - a.* Place beds at right angles, head of unoccupied bed to the foot of patient's bed.
 - b.* Wrap patient in blanket, covering feet and tucking edge under back.
 - c.* Nurses stand on the same side of bed, position same as for lifting and carrying patient.
 - d.* Urge patient to become rigid.

c. Hold loose end of blanket to cover back.

f. Carry, in unison, to clean bed, lower and cover.

Q. To change or turn mattress with patient in bed:

Two to four nurses required:

1. One or two nurses on either side of bed.
2. Have three pillows ready and necessary linen.
3. Remove spread, upper blanket and pillows.
4. Loosen the bottom sheets and roll them together with the upper sheet and blanket, close to the patient's sides and under feet.
5. First nurse draws patient to her side of bed.
6. Second nurse draws mattress towards her, thus supporting the patient on the bed while one-half of the springs is free from the mattress.
7. First nurse places the three pillows, lengthwise, on springs, and draws patient from the mattress on to the pillows.
8. Second nurse removes mattress or turns mattress and readjusts it on the springs.
9. First nurse grasps the roll of bedclothes and draws the patient to side of freshly turned or new mattress.
10. Patient is then lifted to centre of bed, bed further made by both nurses.

R. Restraining patients:

1. Object:

- a.* To prevent patients injuring themselves.
- b.* To prevent patients from getting out of bed.

2. General instructions:

- a.* Never restrain patients unless absolutely necessary, or in accordance with the doctor's orders.
- b.* Always make restraint effectual because careless restraint is worse than none.
- c.* Prevent any restraint from becoming too tight.
- d.* Watch for and prevent chafing and pressure sores.
- e.* If violent, care must be taken that there are enough able-bodied persons at hand to hold patient.
- f.* Do not fasten one side of the body only. One hand and one foot, on opposite sides of the body may be restrained.
- g.* To prevent chafing, when leather straps, armlets or anklets are used, pad the same with cotton or gauze and bandage, prior to adjustment.
- h.* Fasten securely but not too tightly.
- i.* Never fasten hands to head of bed.

3. Types:

- a.* Sideboards.
- b.* Sheets.
- c.* Handcuffs, anklets, straps.
- d.* Strait-jackets.

4. Method:

- a.* Sideboards: securely fasten the mechanical sides to bed (Fig. 27). Or secure a board, 1 in. thick, 14 in. high, 2 in. longer than the bed, with holes in each end. Fasten securely with a rope to head and foot of bed or along the sides

b. Sheets:

1. Fold two sheets, diagonally, placing one underneath the patient's waist and the other over the abdomen. Twist the ends of the two sheets together, close to the body, draw the ends through the links of the springs and tie under the springs.



FIG. 27.—Side pieces on bed for restraint.

2. Place folded sheets, one over the abdomen and one over the knees, securing them by twisting the ends around the bars on the side of the bed. The knees should be well padded.
3. A sheet placed lengthwise across the patient may be used and fastened as above, bringing it high up under

- the axillæ and low down to the feet.
4. Fold a sheet diagonally and place below the shoulders. Bring the ends up under the axillæ, over shoulders and then under the pillow. Cross the ends, twist and tie to bar at head of bed. Usually restraint of the lower part of the body is also necessary.
 5. Clove hitch: with a large triangular bandage or with a small sheet folded diagonally, make two loops, forming a figure-of-eight, with one end up and the other end down. Put loops together with free ends on inside, pass them over hand or foot, twist ends together and make knot 12 inches from extremity and tie ends to bedstead. If not properly applied, it will either not hold or shut off the circulation. It may be used on both feet by putting a loop around each ankle and twisting the ends once around that portion of the sheet which is between the ankles and carrying it to the foot of the bed.
 6. Camisoles, strait-jackets: make of heavy canvas for adults or of heavy muslin for children. Apply according to instructions, noting general instructions.
 7. Anklets and handcuffs of leather are

made with lock and key. They fit nearly any ankle or wrist, are strapped to the bed. Always have a definite place for the key in each ward and *never lose the key*.

HANDLING PATIENTS AFTER FRACTURES

1. Avoid moving patient whenever possible.
2. Keep all fractures of extremities straight.
3. After a fracture has been set, avoid moving the fractured part from the position in which it was placed.
4. As ordered, apply cold to control hemorrhage, check inflammation and relieve pain.
5. When patient is able to be up, keep all fractures immobilized with proper supports.

HANDLING PATIENTS WITH HEMORRHAGE

1. In an emergency, make pressure over arteries to control hemorrhage, then get assistance.
2. Report all patients with hemorrhage symptoms to the head-nurse at once.
3. After operation, watch for signs of external hemorrhage on dressings, over incision.
4. If in doubt as to increase of blood-stain on dressings, outline the stain with a soft pencil, time the increase.
5. Do not change dressings, without a written order from the doctor.
6. Never allow heart stimulation to be given without an order from the doctor.
7. Symptoms:
Growing pallor.

Weak, shallow, sighing respiration.

Thirst.

Restlessness.

Dizziness.

Weakening of pulse beats, which become rapid and irregular.

Falling temperature.

8. Treatment usually ordered:

Absolute quiet.

Application of cold or heat.

Elevation of part of body sustaining hemorrhage.

If hemorrhage is abdominal, give nothing by mouth, elevate foot of bed.

HANDLING PATIENTS WITH SPRAINS

1. Affected part should be kept at rest until orders are given for exercise.
2. Joints are usually elevated and treated with hot or cold applications.
3. Sprain of an ankle is usually treated by strapping the ankle with adhesive, and kept at rest.

CARE OF THE MOUTH

A. Time:

1. Daily, with morning and evening care.
2. Patients who are very ill must have the mouth cleansed before and after each feeding in addition to the regular care.
3. In accordance with the doctor's orders.

B. Object:

1. Cleanliness, comfort and a sense of freshness.
2. To avoid the accumulation of bacteria, which may be swallowed with the food.

3. To prevent ulceration of the mouth and infection of ears.

C. General instructions:

1. Always wash your hands before and after cleansing a mouth.
2. Use fresh solution and clean sponges for each cleansing.
3. Never dip a sponge in the mouth solution a second time.
4. Do not injure the mucous membrane lining the mouth.

D. Articles necessary:

1. Tray with:
 - a. Covered glass containing solution and sponges.
 - b. Glass with applicators and tongue depressors.
 - c. Small basin and glass of fresh water.
 - d. Towel and paper bag.
2. Tooth paste and brush, glass of fresh water and a small basin.

E. Method:

1. If condition permits, patient may care for his own mouth by using the tooth brush.
2. For bed patient, place towel under patient's chin.
3. Cleanse teeth, roof, sides of mouth and tongue, changing sponges as frequently as necessary.
4. When possible, allow the patient to rinse the mouth with fresh water.

5. All waste to be placed in the paper bag.
6. When patient refuses to open teeth, a tongue depressor or handle of spoon, covered with gauze, may be used to pry the mouth open, leaving the instrument between the teeth while cleansing the mouth.

F. Solutions used:

1. For general use:
 - a. Listerine and water, one part to three.
 - b. Boric acid, glycerine and lemon juice, equal parts.
 - c. Dobell's solution, 50 per cent.
 - d. Boric solution, 3 per cent.
 - e. Normal saline.
 - f. Weak soda bicarbonate solution.
2. For a neglected mouth:
 - a. Peroxide of hydrogen, 50 per cent. Rinse mouth thoroughly. Do not use too often.
 - b. Apply lemon juice and glycerine, equal parts, and leave for ten minutes. Cleanse thoroughly.
 - c. Mix glycerine and peroxide of hydrogen, two drams of each, and add soda bicarbonate gr. v. Apply to tongue and mouth, leave for ten minutes and then cleanse with any good mouth wash.
3. For dry mouth:
 - a. Albolene and boric acid, equal parts, mixed with a little lemon juice and apply.
 - b. Irrigate with normal salt or weak soda bicarbonate solution.

4. For dry tongue with sordes:
 - a. Apply lanolin, vaseline, or lanolin and vaseline, equal parts, or other simple ointment, and leave for 20 minutes.
 - b. Cleanse mouth and teeth with mouth wash.
 - c. Leave lanolin on lips and tongue, if necessary.

G. Record exact condition of mouth, when special cleansing is necessary.

CARE OF HAIR

A. Object:

1. Comfort.
2. Cleanliness.
3. Tidiness.

B. General instructions:

1. Examine for pediculi or nits.
2. Avoid pulling.
3. Always wash and carbolize comb after use on each patient.

C. Combing:

1. Time: morning and evening, if possible.
2. Articles necessary:
 - a. Towel; combs, fine and coarse.
3. Method:
 - a. Protect pillow and upper part of covers with towel.
 - b. If possible, part hair in middle for two braids.
 - c. If tangled:

Wet with alcohol, 50 per cent.

Separate into small sections and comb,

beginning at the ends. Grasp the section being combed, with the left hand and comb gently.

- d.* Braid in any way comfortable to patient and fasten ends.

D. Bed shampoo:

1. Articles necessary:

- a.* Blanket.
- b.* Rubber sheet or Kelly pad.
- c.* Four towels, comb.
- d.* Small rubber sheet folded inside of towel.
- e.* Bottle of soap solution.
- f.* Pail for drainage.
- g.* Two pitchers of water; one with 105 degrees F., other 90 degrees F.

2. Method:

- a.* Remove all but one small pillow, placing rubber sheet and towel under head.
- b.* Place blanket over patient, turning covers over foot of bed.
- c.* Turn patient on side with back towards nurse.
- d.* Have head of patient well to edge of bed, hips in centre.
- e.* Protect bed with large rubber sheet, rolling sides to form a drainage pad, or use Kelly pad and cover with towel.
- f.* Protect eyes with towel.
- g.* Make lather with soap solution, wash and rinse thoroughly.
- h.* Lather, wash and rinse thoroughly a

second or third time as necessary to clean.

- i.* Use the warmer water at first and then the cooler water.
- j.* Squeeze water from hair, cover with towel, remove Kelly pad or large rubber sheet and place in pail.
- k.* Fan and rub until dry. Comb.

E. Tub shampoo:

1. Articles necessary:

- a.* Towels, soap solution and comb in bathroom.

2. Method:

- a.* Wrap towel about neck and shoulders and have patient protect eyes with towel.
- b.* Let patient sit with head resting over edge of tub.
- c.* Shampoo as in bed.

F. Pediculi on head:

1. Articles necessary: same as for shampoo, Tr. Quassia or Tr. Larkspur.

2. Method:

- a.* If pediculi not abundant, shampoo first.
- b.* If pediculi abundant, wet scalp and hair with Tr. Quassia or Tr. Larkspur.
- c.* Apply towel or triangular bandage and allow to remain 8 or 10 hours.
- d.* Shampoo.
- e.* Repeat treatment, if necessary.
- f.* Record hour of treatment and kind of tincture used.

CARE OF NAILS

Clean with nail-file daily.

Scrub with brush, warm water and soap. Clean with nail-file.

If very dirty, after scrubbing, peroxide of hydrogen and an orange stick are effective.

Cut finger nails, rounding at top.

Cut toe nails, square across top.

CARE OF BACK

A. Time:

1. At time of bath, if bath is given.
2. With morning care and evening care.
3. After each involuntary defecation and urination.
4. When the skin of back is in poor condition.

B. Object:

1. Comfort of patient.
2. Prevention of bed-sores.
3. Cleanliness.
4. Stimulation of the circulation of the blood in the skin.
5. Evaporation of moisture.

C. General instructions:

1. When rubbing the back, avoid jarring the body. Steady the patient with the free hand.
2. Rub with long, even strokes and with the palm of the hand. Never wear rings.
3. Never allow the alcohol or other solution to drip on the skin.

D. Articles necessary for evening care:

1. Blanket.
2. Whisk-broom and paper bag.
3. Towel, washcloth, soap.
4. Basin of water.
5. Castor oil.
6. Alcohol, 50 per cent., warmed by placing the bottle in hot water.
7. Powder.

E. Method:

1. Turn patient on one side.
2. Place blanket over patient, turn covers down half-way and then fold over foot of bed.
3. Brush draw sheet free from crumbs, straighten and tighten both lower and draw sheets.
4. Turn patient on opposite side, brush and smooth bedclothes as on opposite side of bed.
5. Place towel close to back for protection of bed.
6. Wash and dry back.
7. Rub back with alcohol until dry.
8. When a definite reddened area is noted, indicating undue pressure, moisture or lack of care:
 - a. Change position of patient.
 - b. Relieve pressure by the use of air or water mattress, air cushions, pillows or cotton rings.
 - c. Avoid rubbing the tender area. Alcohol may be dabbled on the area and the surrounding skin may be rubbed with alco-

hol, always rubbing away from the edges of the reddened area. Powder.

PRESSURE-SORES (DECUBITA)

A. Causes:

1. Predisposing:
 - a.* Lowered vitality.
 - b.* Continued high fever.
 - c.* Impaired circulation.
 - d.* Extreme emaciation.
2. Immediate:
 - a.* Moisture.
 - b.* Uncleanliness.
 - c.* Wrinkles and crumbs.
 - d.* Pressure, due to patient having been left in one position for too long a time.

B. Prevention:

1. Protect all bony prominences by relieving pressure.
2. Keep bed dry, clean, and free from wrinkles.
3. Change position of patient frequently, whenever possible.
4. Give special care to back.

C. Treatment:

1. Never fail to report reddened spots and abrasions to head-nurse at once.
2. Record all pressure-sores, with time and method of dressing.
3. For redness and slight abrasions of skin:
 - a.* Wash with soap and tepid or room-tem-

perature water and dry by patting and not by rubbing towel on skin.

b. Apply castor oil, Tr. Benzoin Compound, or powder.

4. For deep pressure sores :

a. Relieve pressure.

b. Cleanse with irrigations.

c. Hot boric acid dressings.

d. Direct exposure to the air.

e. Special orders by attending physician.

D. Medications which are often ordered to be used :

Irrigations :

a. Peroxide of hydrogen.

b. Boric acid.

c. Normal salt.

d. Iodine.

e. Permanganate of potassium.

Powders :

a. Talcum.

b. Boric acid.

c. Stearate of zinc.

d. Bismuth.

e. Lycopodium.

Drugs :

a. Balsam of Peru.

b. Castor oil.

c. Beef peptonoids.

d. Zinc oxide ointment.

e. Bismuth subnitrate and castor oil.

f. Tr. myrrh, 50 per cent.

g. Tr. benzoin compound.

APPLICATION OF EXTERNAL HEAT

A. Object:

1. To supply heat to the body when vitality is low or after exposure to cold.
2. To relieve pain.
3. To equalize the circulation of the blood.
4. To provide comfort to the patient.

B. General instructions:

1. See that whatever container is used does not leak.
2. Have stopper attached to container with tape or string.
3. Never use boiling water or extreme heat.
4. To burn a patient by having the containers too hot, improperly placed or leaky, is criminal.
5. Do not leave heat appliances in the bed of an unconscious or delirious patient. Use heated blanket instead.
6. In case a patient has been burned, report to the head-nurse at once.

C. Method:

1. Fill cans and bags one-half full of water, heated not more than 115 degrees F.
2. Express the air from a rubber bag by placing it against the side of a solid surface, pressing the upper half until the water comes to the neck. Put in stopper.
3. Cover with a flannel cover, enclosing top of bag.
4. Place the top of bag or can away from the patient.

5. Do not place the container between the arms and sides of body or between the legs or under the back or opposite joints.

D. Care of bags:

1. Remove cover and empty.
2. Hang them with the open end downward to dry.
3. See "Care of Rubber Goods."

APPLICATION OF EXTERNAL COLD

A. Object:

1. To cause local contraction of superficial blood-vessels.
2. To arrest suppuration.
3. To equalize the circulation of the blood.
4. To relieve congestion and pain.
5. To afford comfort to the patient.
6. To stop hemorrhage.

B. Types:

1. Compresses.
2. Ice bags.
3. Ice caps.
 - a. Helmet shaped, for head.
 - b. Long and narrow, for head and neck.
 - c. Round and oval for other parts of body.
4. Ice coil.

C. General instructions:

1. Keep all applications cold.
2. Cover rubber articles with thin muslin or gauze.

3. Do not allow ice to stand in water. Drain off the water.
4. Protect ice from the air, to avoid undue melting.
5. Keep applications in their proper position so as to avoid irritation of the patient.
6. Support ice bags or caps so that they will not cause pressure on sensitive parts.

D. Compresses:

1. Articles necessary:

- a.* Small rubber sheet.
- b.* Towel.
- c.* Two or more pieces of muslin or gauze, with the ragged edges turned in, so as to make the required size to cover the place to which the compress is to be applied.
- d.* Piece of ice placed in a colander and covered with flannel. Place colander in basin.

2. Method:

- a.* Protect pillow or bed with rubber sheet, covered with towel.
- b.* Moisten the compresses.
- c.* Place on ice to cool.
- d.* Keep at least one compress on the ice while others are being used.
- e.* Change frequently.
- f.* When the compress is long, as when placed on forehead, fold the ends of compress upward and under, to avoid water dripping on ears or bed.

E. Ice bags and caps:**1. Articles necessary:**

- a.* Ice bag and cover.
- b.* Stout bag in which to crush ice. Wooden mallet.
- c.* Colander, tablespoon.

2. Method:

- a.* Crush ice to uniform size of hickory nut.
- b.* Place in colander and pour just enough water over it to remove the sharp edges.
- c.* Fill bag half full, using the spoon.
- d.* Expel air and secure top to avoid leakage.
- e.* Tie in a square of gauze, bringing diagonal corners together.
- f.* Apply. If ordered over the heart and the patient is in a sitting position, place the bag in a sling and pin it to the gown.

F. Ice coil:**1. Articles necessary:**

- a.* Ice coil.
- b.* Funnel.
- c.* Gauze.
- d.* Four-tailed bandage.
- e.* Pail of ice water, containing ice.
- f.* Small pitcher.
- g.* Empty pail.

2. General instructions:

- a.* Keep funnel covered with gauze to prevent the dirt from the melting ice entering the tubing.
- b.* If tubing becomes clogged, cleanse with soda solution.

c. Keep ice in pail.

3. Method:

a. Place pail of ice water on small stand, one and one-half foot higher than patient.

b. Cover with sheet to exclude air and to look neat.

c. Place empty pail on floor on opposite side of bed.

d. Place ice coil in desired position, securing with four-tailed bandage.

e. Attach funnel to one end of tubing and place in pail of ice-water. Put other end in empty pail.

f. To start siphonage, compress rubber tubing one foot below funnel, fill funnel with water and lower it quickly into pail. Release pressure before any air can be admitted into funnel.

g. If tubing seems to be clogged, squeeze coil several times or pinch the tubing on the opposite side of the bed.

h. The flow can be regulated by loosely knotting the tubing or compressing it by a string, hemostats, etc.

FEEDING PATIENTS

A. General instructions:

1. Choose the kind of diet which meets the needs of the patient.
2. Follow the doctor's prescription for food.

3. Consider the likes of the patient, in serving and seasoning.
4. Select food according to health, age and to meet other needs of patient.
5. Select food principles and not stimulants.
6. Select food known to be easily digested.
7. Do not give too many varieties at one time.
8. Serve food only when properly cooked, never greasy, under-done or over-done.
9. Do not ask the patient to eat just at medicine time or when a treatment is being given.
10. Keep the patient in a cheerful frame of mind.
11. Use diplomacy rather than force in getting a patient to take food.
12. Before serving a tray, remove medicine glasses, emesis basins, etc., from the bedside table and place the tray in a convenient position for the patient to reach.
13. If the patient is sleeping, avoid awakening for food unless it is essential.
14. See that the patient is in a comfortable position, hands and face having been washed before being served.
15. When preparing and serving a tray, the nurse should see that she is immaculate.
16. When feeding a patient, do not drop particles of food in transit.
17. Encourage the patient to masticate the food well.
18. Do not hurry the patient.
19. Do not serve the dishes too well filled; a second serving is preferable.

20. Serve food to very sick patients often and in small quantities. This excites the appetite and digestion.
21. Serve food promptly.
22. Have dishes clean, whole and properly placed on a tray which has been made to look attractive.
23. Serve hot foods hot and on hot dishes.
24. Serve cold foods cold and on cold dishes.

B. Feeding patients when in a reclining position:

1. Place one corner of the napkin under the chin and protect the gown and sheet. Dry mouth with napkin, as necessary.
2. In giving liquids, pour a small quantity into a glass, raise the head slightly by slipping the arm and hand under the pillow. If the head is raised too far forward, it makes it difficult for the patient to swallow.
3. Drinking tubes: ideal drinking glasses are preferable to lifting the head unless the patient is too weak to draw fluid through a tube. Always clean a tube, at once, after its use.
4. Never use a glass tube in feeding a delirious patient. A dessert spoon may be used in feeding a delirious or unconscious patient. Pass the spoon back in the mouth, pressing the tongue gently down with the spoon and the food will generally be swallowed. Carry but a small amount of food in the spoon and do not feed too fast.

CARE OF SURGICAL CASES BEFORE AND AFTER OPERATION

A. Woman's Ward:

1. General instructions:

- a.* In all cases, give full bath, braid hair in two braids.
- b.* For mastoid cases, shave hair two inches around area where incision is to be made.
- c.* For breast cases, shave from collar bone to line of diaphragm, including axilla and arm, which is shaved to the elbow.
- d.* For all vaginal cases, shave vulva and two inches beyond the line of pubic hair. Give iodine douche, using 2 drams tincture of iodine to 2 quarts of water, 105 degrees F.
- e.* For abdominal cases, shave abdomen and vulva.
- f.* For special disinfection of the skin and dressings to be used, comply with the orders of the staff doctors.

2. Other preparations before operation:

- a.* Soft diet, the evening before operation.
- b.* Castor oil to be given 10 hours before time fixed for operation.
- c.* Omit meal just preceding.
- d.* Water may be given up to within one hour fixed for operation.
- e.* An enema of 2 quarts of soap-suds into which has been stirred 30 minims of

turpentine. This is to be given 4 hours preceding the hour fixed for the operation and to be given in the knee-chest position, when possible.

- f.* The nurse is responsible for the patient being catheterized when ordered, or to see that the patient voids urine within one-half hour before the time sent to the operating room.
 - g.* Perineal suit, consisting of leggings and cap, is to be put on just before leaving the ward.
 - h.* False teeth, jewelry and hairpins are removed. Special care is to be taken of the teeth and jewelry.
 - i.* Nurse records the time sent to the operating room and the hypodermic as given, when ordered.
 - j.* When the patient is wanted in the operating room, the nurse accompanies her and takes the record sheet.
3. After care, in Recovery Department:
- a.* When ordered, normal saline, one pint, with or without spiritus frumenti, one ounce, per rectum.
 - b.* Take pulse and respiration every 10 minutes during first hour. Take pulse and respiration every 20 minutes during next 3 hours. Take pulse and respiration every 4 hours for next 36 hours.
 - c.* Take temperature every four hours, per

rectum, if no saline is given. If saline is given, take temperature every four hours, per orem, if patient is conscious. If patient is unconscious and saline given, take temperature per axilla.

- d.* Day of operation, sips of hot water may be given, or chipped ice. A gradual increase of hot water, cold water, weak tea and albumen water may be given, in the following 12 hours. If not nauseated, milk, soups and custards may then be added, providing the patient is not a laparotomy. Soft diet in 24 hours.
- e.* Laparotomy cases may have the liquids as above for the first 12 hours, slightly increased liquids for the first 72 hours unless otherwise ordered by the attending physician.
- f.* In case the patient is unable to void urine within 8 hours, catheterize and every 8 or 12 hours after, if ordered by the attending physician. Measure and record urine for 48 hours after operation.
- g.* If wet or dry dressings need to be applied, use sterile forceps.
- h.* After removal of vaginal packing, give sterile douche, lysol, $\frac{1}{2}$ per cent.

B. Men's Ward:

Junior interne prepares male patients. Other orders the same.

SYMPTOMS *

The ability to recognize symptoms depends upon:

The intelligence of the observer.

Practice.

The symptoms outlined are given to develop the power of observation on the part of the student. Symptoms are recorded to aid the physician in making a diagnosis or to detect the malingerer.

Symptoms are:

Objective, namely, evident to the senses of the observer.

Subjective, namely, felt or known only by the patient.

Objective Symptoms:

A. General:

1. Gait.
2. Consciousness or coma, complete or partial.
- * 3. Apparent degree of illness.
- * 4. Obese, emaciated, and to what degree.
5. Mental condition.
6. General appearance of face, noting:
 - a. Swelling.
 - b. Puffiness under or about eyes.
 - * c. Paralysis.
 - * d. Apparent pain.
 - * e. Apparent weakness.
 - * f. Muscular contractions.
 - g. Risus sardonicus.
 - * h. Sunken temples.

* Symptoms which are starred are not to be recorded on the history sheets.

* *i.* Relaxed jaw.

7. Tremors:

* *a.* Fine, as in exophthalmic goitre.

* *b.* Coarse, as in delirium tremens or paralysis agitans.

8. Paralysis:

* *a.* Flaccid type.

* *b.* Spastic type.

9. Lying with eyes half closed or unevenly closed.

* 10. Loss of the power of speech—aphasia (Gould).

B. Position of patient:

* 1. Sitting posture as in cardiac and respiratory diseases.

* 2. Dorsal recumbent with knees flexed as in peritonitis and following abdominal sections.

3. Continuously lying on the affected side, as in pneumonia, pleurisy, appendicitis.

4. Lying on abdomen, suggesting abdominal pain, colic.

5. Leg flexed on affected side as in hip-joint disease and appendicitis.

* 6. Continuously slipping down in bed, as in typhoid fever and the terminal stages of many diseases.

* 7. Remaining too quiet, as in exhaustion.

8. Head drawn backward, as in meningitis

9. Oposthotonos, as in tetanus and strychnia poisoning.

- * 10. Head drawn to one side, as in wry neck—*torticollis*.

C. Restlessness:

1. Tossing to and fro—*jactitation*.
2. Twitching condition of muscles—*subsultus tendinum*.
3. Picking at the bed-clothes—*carphologia*.
4. Muscular twitchings, as in the approach of convulsions.
- * 5. Startled movements, as upon the approach of persons unexpectedly or sudden noises.
- * 6. Yawning.

D. Mental conditions:

1. Depressed.
2. Apathetic.
3. Anxious.
4. Irritable.
5. Excited.
6. Wandering.
7. Delirious:
 - a.* Low and muttering.
 - b.* Noisy and screaming.
 - c.* Constant or occasional.
8. Unconscious.
- * 9. Fearful.
- * 10. Cheerful.

E. Appetite:

1. Loss of—*anorexia*.
2. Extensive or perverted, as in *gluttony*.
3. Thirst.

F. Sleep and insomnia :

1. Sleep continuous and restful.
2. Sleep disturbed and restless.
3. Night cry, as in children with hip-joint disease.
- * 4. Insomnia is grave, if long continued.
- * 5. Patient's thoughts during insomnia.
- * 6. Sleep and sepsis seldom go hand in hand.

G. Skin :**1. Color :**

- a.* Yellow, jaundice.
 - b.* Pale.
 - c.* Flushed, general or hectic.
 - d.* Waxy.
 - e.* Cyanosed.
 - f.* Spotted.
 - g.* Soapy yellow, suggesting cancer.
 - h.* Ashen grey as of death.
 - * *i.* Bronzed.
2. Dry and hot, as in fever.
 3. Moist and hot, as in fever.
 4. Moist and cold, as in shock.
 5. Cold extremities or cold portions of the body.
 6. Erythema, macules, papules, pustules, vesicles, crusts, scars, umbilications, abscesses, abrasions, ulcers, discolorations, desquamation, swellings, edema, wheals, appearance of palms, appearance of soles of feet and between toes and fingers, scalp.

7. Sweating:

- a.* Extreme weakness, as noted when temperature falls.
- b.* Night sweats, as in tuberculosis.
- c.* High temperature with wet skin, which is an alarming symptom.
- d.* High temperature with dry skin, which is a less alarming symptom.
- e.* Head sweating, as in rachitis.
- f.* Joint sweating, as in arthritis.
- * *g.* Veins visible.
- * *h.* Arteries twigged, suggesting high blood-pressure.

8. Excessive sensitiveness of the skin—hyperesthesia.

- * **9. Baldness—alopecia.**

H. Face:

- 1. Expression:**
 - a.* Anxious, as in hemorrhage, shock and cardiac complications.
- 2. Pinched appearance about nose.**
- 3. Pale area about the mouth.**
- * **4. Special appearance accompanying sepsis.**

I. Eyes:

- * **1. Sunken, as in tuberculosis.**
- 2. Heavy, dark circles under eyes.**
- * **3. Prominent, as in exophthalmic goitre.**
- * **4. Secretion and discharge of tears—lacrimation.**
- * **5. Inflamed lids.**
- 6. Puffiness about eyes, indicating circulatory or toxic conditions.**

- * 7. Wandering or rolling of eye-ball; twitching of eye-ball or lids.
- * 8. Squinting (strabismus) or frowning, sometimes seen in meningitis.
- * 9. Glazed appearance, as when patient is moribund.
- 10. Color of sclera: bloodshot, or yellow as in jaundice.
- 11. Pupils even or uneven.
- 12. Size of pupils.
- 13. Pupils dilated, as when patient is in real pain or suffering from mental disturbance or fright.
- 14. Pupils contracted, as in a bright light or morphinism.
- * 15. Reflex action.

J. Mouth:

- * 1. Odor of breath.
- 2. Sordes.
- 3. Gums: swollen, bleeding, tender, blue line on border of teeth as in lead poisoning.
- * 4. Ecchymosis, seen along the line of gums, as in scurvy.
- * 5. Koplik's spots on outer border of gums and inner border of cheeks, indicating measles.
- * 6. Prominences, like shot, on roof of mouth, as in small-pox.
- * 7. Mucous patches.
- 8. Corrosive patches, indicating certain poisons.
- 9. Excessive salivation.
- * 10. Inflammation of the mouth—stomatitis.
- 11. Sprue or thrush.

- * 12. Noma—cancer.

K. Tongue:

- 1. Dry or moist.
- * 2. Swollen, indented by teeth.
- 3. Coated: white, brown, yellow, sometimes nearly black.
- 4. Distribution of coating.
- * 5. Strawberry tongue, as in scarlet fever.
- 6. Dry and coated, as in fevers.
- * 7. Syphilitic ulceration or cancer.

L. Throat:

- * 1. Laryngeal or pharyngeal inflammation.
- * 2. Tonsils: enlarged, swellings, abscesses, cheesy exudate, white or grey patches extending over fauces.
- * 3. Adenoids.
- 4. Hemorrhage, following operations.

M. Voice:

- 1. Hoarseness, as with "cold."
- * 2. Thick, as with enlarged tonsils.
- * 3. "Nasal," as with growth in nasal passages.
- * 4. "Whiskey" voice.
- * 5. High-pitched, as in hysteria.
- 6. Loss of voice—aphonia.
- 7. Incoherent: may be due to:
 - a. Dullness of comprehension.
 - b. Lack of interest.
 - c. Slowness in response.

N. Hands and feet:

- 1. Extra or missing fingers or toes.
- 2. Webbed fingers and toes.

- * 3. Finger ends clubbed, as in tuberculosis or chronic heart disease.
- * 4. Joints clubbed, as in gout.
- 5. Finger nails:
 - a. Skin underneath cyanosed, as in heart disease.
 - * b. Thickened and ribbed, as in tuberculosis.
 - * c. Thin, brittle and dry, as in cases of lowered vitality.

O. Abdomen :

- 1. Swollen and distended, locally or generally.
- * 2. Hollowed out, as in wasting diseases.
- 3. Distended with gas or air—tympanites—(Dorland).
- * 4. Dropsy of the abdominal cavity—ascites—(Dorland).
- 5. Noise made by flatus in the bowel—borborygmus—(Dorland).
- * 6. In tympanites, note the hollowed or inflated portion of the trunk at the lower end of the breast bone—scrobiculus cordis.
- * 7. Boat-shaped—scaphoid—as in meningitis.

P. Muscles :

- 1. Incoördination.
- 2. Twitching, spasm.
- 3. Stiffness.
- 4. Loss of control.
- 5. Muscular pain—myalgia.
- 6. Rigidity.
- 7. Contractions.
- 8. Diminution of size—atrophy.

Q. Bones:**1. Joints:**

- * *a.* Grating sound, upon moving.
- b.* Stiffness.
- c.* Pain accompanying motion.
- d.* Sweating of joint as in arthritis.
- * *e.* Abnormal growths at ends of long bones as at wrists and ankles.
- f.* Knee:
 - * Knock knee—*genu valgum*.
 - * Bow leg—*genu varum*.
 - * Backward bending—*genu recurvatum*, as in locomotor ataxia.
- * 2. Club feet—*talipes*.
- 3. Chest deformities (Berry):
 - * *a.* Rachitic rosary.
 - * *b.* Harrison's groove.
 - * *c.* Pigeon breast.
 - * *d.* Funnel chest.
- * 4. Spine curvature (Berry):
 - * *a.* Round back—*kyphosis*.
 - * *b.* Hollow back—*lordosis*.
 - * *c.* Lateral curvature—*scoliosis*.
- 5. Asymmetrical development.
- 6. Open anterior fontanel.
- * 7. Prominent forehead with square appearance.
- * 8. Delayed dentition.

R. Vomitus:

- 1. Retching.
- 2. Quiet and without effort.
- 3. Strained or forcible.
- 4. Projectile.

5. Relation to food and medicine.
6. Contents: undigested food, bile, mucus; fecal matter, stercoraceous; blood, coffee grounds.
7. Amount.

S. Sputum:

1. Quantity.
2. Odor.
3. Expectoration with or without cough.
4. White, glairy, viscid, green, purulent, mucoid, ropy, tenacious, "prune-juice."
5. Containing blood, as in tonsillectomy or gastric ulcer; frothy and pink, as in pulmonary hemorrhage.
6. Dark green, characteristic of gangrene of lung; copious, purulent and with foul odor.
7. Characteristic of tuberculosis; odor, white, flecked with yellow or tinged with blood, viscid.

T. Feces:

1. Hard, dry, encrusted, bullet-formed.
2. Semi-formed or soft stool.
3. Liquid, as in diarrhea; "pea-soup," or "rice-water," as in poisonings.
4. Odor: characteristic, as in typhoid, carcinoma, abscess in bowel or rectum.
5. Frequency: due to over-eating, water, atmospheric changes, mental shock, drugs.
6. White or clay color, indicating lack of bile.
7. Red or black, due to drugs.
8. Tarry stool, suggesting presence of blood.

9. Blood-tinged, as in typhoid, dysentery, or bleeding hemorrhoids.
10. Mucus, as in colitis, giving a shiny and slimy appearance.
11. Parasitic: may contain pin, round or tape worms.
12. Pain with defecation—tenesmus.
13. Flatus.
14. Involuntary stools.
15. Undigested food, Lienteric stool.

U. Urine:

1. Color:

a. Normal: straw, amber, yellow.

b. Abnormal:

Dark red, dark brown, blood tinged.

Dark, in fever; light, in hysteria.

Yellowish-brown, presence of bile.

Drug reactions: bright red—logwood;
bright orange—senna or rhubarb;
olive green—iodoform, salol, guaia-
col, carbolic.

2. Odor:

a. Normal, characteristic.

b. Abnormal:

Odor of decomposition, as in chronic cystitis.

Sweet odor or sugary, as in diabetes.

Drugs and various foods give a characteristic odor, as asparagus.

3. Quantity:

a. Normal: healthy adult, 40 to 50 fluid-ounces in 24 hours; healthy child, 2 to

14 years, 15 to 40 fluidounces in 24 hours.

b. Increased: in diabetes, copious drinking of fluids, drugs, excitement.

c. Decreased—anuria: in kidney complications, after diaphoresis, diarrhea and hemorrhage.

4. Sediment:

a. Finely powdered sediment indicating abnormal constituents.

b. Gravel.

c. Calculi.

d. Pus.

e. Brick-dust deposit in diaper of infant.

5. Note:

a. Suppression.

b. Retention.

c. Retention with overflow.

d. Incontinence.

e. Involuntary.

V. Temperature:

1. Degree varies with the disease, rising or falling gradually or suddenly.

a. Continuous: remains high with slight variations, as in pneumonia.

b. Remittent: remains above normal, but with considerable difference between highest and lowest points, as in typhoid.

c. Intermittent: alternately rises to high point and falls to normal and below, as in malaria.

2. Returns to normal:

- a.* By crisis: a direct fall from a high temperature to normal or subnormal within a few hours, accompanied by a decrease in pulse and in respiration rates, as in pneumonia.
- b.* By lysis: gradual return from a high temperature to normal, taking several days, as in typhoid.

W. Pulse: An intermittent distention of the arterial walls which acts in accordance with each heart beat:

1. Characteristics to consider when taking pulse:

- a.* Rate: slow, normal or subnormal; quick, 100 to 120; rapid, 120 to 140; running, 140 and above; galloping; flickering; water-hammer.
- b.* Force: strength of beat, as weak, strong, sluggish, forcible.
- c.* Volume: amount of blood which passes through the artery, depending partly upon the extensibility of the wall, as large, small, wiry, thready, cordy.
- d.* Rhythm: regular or irregular in rhythm, force or volume, intermittent or di-crotic, regularly intermittent.
- e.* Compressibility, whether or not it may be obliterated, temporarily, by pressure.
- f.* Tension: low, pulse full, but soft and

easily compressed; high, pulse full between beats and resistant to finger pressure.

X. Respiration:

1. Characteristics to be considered:
 - a.* Rapid or slow.
 - b.* Shallow or deep (thoracic or abdominal).
 - c.* Regular or irregular.
 - d.* Accompanied with pain, constant or spasmodic.
 - e.* Mouth breathing.
 - f.* Inability to breathe except in an upright position.
 - g.* Difficult breathing—dyspnea, orthopnea.
2. Sound accompanying respiration:
 - a.* Wheezing, as in bronchitis and asthma.
 - b.* Sighing, as in air-hunger, shock, collapse or hemorrhage.
 - c.* Grunting, as in pneumonia.
 - d.* Stertorous, as in pneumonia.
 - e.* Cheynes-Stokes, as in uremia and paralysis.
 - f.* Coughing, without effort or rasping.
 - g.* Hiccoughing, serious, if long continued.
 - h.* Sneezing.
 - i.* Panting.
 - j.* Snoring, as in alcoholism and nephritis.
 - k.* Biot's, as in meningitis.
 - l.* Mucus rattle in throat.

*Subjective symptoms:***A. General:**

1. Hunger.
2. Thirst.
3. General malaise, or tiredness.
4. Exhaustion.
5. Nervousness.
6. Nausea.
7. Dizziness.
8. Sense of falling.
9. Numbness.
10. Tenderness.
11. Extremities "asleep."
12. Palpitation of the heart.
13. Prickling and tingling of the throat, etc.
14. Dryness of throat.
15. Cramps in extremities.
16. Itching.

B. Pain:

1. Locality, as headache.
2. Time (as nocturnal bone-pain of syphilis).
3. Duration.
4. Relieved or increased by the application of heat or cold, change of position, or pressure.
5. Nature:
 - a. Slight.
 - b. Severe.
 - c. Acute.
 - d. Dull.
 - e. Sharp.

- f.* Darting.
- g.* Burning.
- h.* Throbbing.
- i.* Steady.
- j.* Spasmodic.
- k.* Stinging.

C. Special senses :

1. Eyes :

- a.* Sensitiveness to light—photophobia.
- b.* Disorder, as seeing “spots,” etc.
- c.* Loss of vision, due to disease, age, brain lesions.

2. Nose :

- a.* Coryza.
- b.* Loss of smell, as in nasal infections.

3. Ears :

- a.* Loss of hearing, as in infections, use of quinine.
- b.* Ringing and buzzing in ears.

D. Chills or rigors :

Record time, duration and severity of seizure.
Take and record temperature at beginning of chill and every half-hour during chill and for two hours after chill.

CHAPTER V

MEDICINAL TOPICS

RULES FOR GIVING MEDICINE

MEDICINE CABINET MUST BE KEPT LOCKED WHEN NOT IN USE

1. Never talk to anyone or allow anyone to talk to you while giving medicine.
2. Keep your mind on the work in which you are engaged.
3. Remember that there is an element of danger in every drop of medicine.
4. Read your orders carefully and be sure you understand them.
5. Never give a drug in the dark or in dim light.
6. Never give or use a drug of any kind that is not plainly labelled.
7. Never give a pill, capsule or tablet that has accidentally been spilled or escaped from its container.
8. Never give a medicine which you have a shadow of doubt about; find out about it or omit.
9. Verbal orders by doctors to student nurses are not allowable.
10. Shake liquid medicines before pouring them out.
11. Regular medicine glasses and droppers should be used to measure liquid medicine.
12. Keep separate medicine glasses for oil and strong-smelling ~~drugs~~

13. Never allow one patient to carry medicine to another.
14. Always record medicine, but never record a dose as given until patient has actually taken it.
15. When giving liquid medicines to an unconscious patient, drop it far back on the tongue, using a dessert spoon.
16. Never give a delirious or unconscious patient a pill or powder placed on the tongue. Give after dissolving it in water.
17. Dilute fluid medicine as a rule.
18. Some cough remedies should be given undiluted, while other remedies, as iron, arsenic, dilute acids, and digitalis should be well diluted. Never dilute more than necessary.
19. Give acids and medicines containing iron through a glass tube.
20. Never mix or give at the same time medicines which change color or form a precipitate when put together, nor put tablets in liquid medicines.
21. Make a dose of medicine as palatable as possible.
22. In diluting a medicine use hot or ice cold water.
23. A disagreeable flavor may be made less noticeable if the patient holds the nostrils closed while taking it and then breathes deeply several times while the nostrils are still closed.
24. Castor oil, and other oils except croton oil, may be given in lemon juice, milk, coffee, brandy, sherry and whiskey.
25. Oleum Tiglii (croton oil) may be given on sugar or in prepared olive oil, proportion of 1 to 7.
26. Powders may be given in syrup, glycerine, jam or

honey, or placed far back on the tongue and swallowed with a drink of water.

27. To test whether pills or triturate tablets are fresh, pulverize them. If not readily pulverized, the drug is not fresh.
28. Keep all poisons on a shelf in the cabinet, locked, if possible.
29. Tablets and pills, if ordered, are given dissolved to typhoid patients.
30. Sleep-producing medicines:

Prior to fulfilling these orders, have the patient ready for sleep; bed comfortable, treatment given, temperature taken, visitors excluded, ventilation as perfect as possible. After the medicine is given, add the finishing touches, give a drink of water, adjust light. Keep room quiet.

31. THE FIVE RIGHTS should be learned and closely adhered to by every nurse, as a student and as a graduate, when giving medicines; namely:

The RIGHT medicine, in the
RIGHT amount, in the
RIGHT way, at the
RIGHT time, to the
RIGHT patient, *and* record.

INUNCTIONS

A. Object:

1. To administer a drug through the skin.

B. General instructions:

1. A large surface of the body is rubbed well with warm oil when ordered for the patient

whose condition is poorly nourished. No especial precautions other than ordinary cleanliness need to be observed.

2. In giving mercurial inunction, never apply the ointment to the same spot on consecutive days. Care of the nurse in handling these patients is extremely necessary.

C. Method:

1. Select the less hairy portion of the body, as in the space in front of both elbows, and on the surfaces of both thighs.
2. Cleanse the portion of skin to which the inunction is to be applied.
3. Apply the inunction and rub it into the skin thoroughly.
4. When mercuric ointment is ordered, it may be rubbed in by the use of the flat portion of a glass stopple or by a rubber-gloved hand.

SUPPOSITORIES

A. Object:

1. To administer a drug through the rectum.

B. Method:

1. Have patient lie on left side and do not expose the body.
2. Lubricate the index finger with oil or vaseline. The warmth of the fingers and rectum melts the surface of the suppository.
3. Pass it into the rectum beyond the internal sphincter muscle.

4. In case of infectious diseases, always protect the finger with a finger cot.
5. If the odor clings to the hand wash the hand with soap and water, then rub on dry mustard while hand is still wet, then wash again.

COUNTER-IRRITANTS

A. Object:

1. To dilate the blood-vessels of the skin.
2. To relieve inflammation and pain.

B. Types:

1. Rubefacients cause redness of skin:
 - a. Dry heat.
 - b. Moist heat:
 - Fomentations or stupes.
 - Poultices.
 - Baths.
 - c. Friction with hand alone, and with liniments.
 - d. Medication.
2. Vesicants cause blisters on skin:
 - a. Medication.
 - b. Heat.

C. Precautions:

1. Watch action carefully, and in case of untoward results, report at once to the head-nurse.
2. When applications are made of turpentine or cantharides, note the amount and color of urine and pain in voiding.
3. If skin seems sensitive or very red from con-

tinued application, apply sweet oil or vaseline to the surface.

D. Method:

1. Dry heat:

a. Apply to the affected area hot water bag with small amount of very hot water—not boiling water.

b. Remove when skin is well reddened.

2. Moist heat:

a. Hot fomentations:

Articles necessary:

Three pieces of thick, soft flannel, for stupe cloths, twice the size of area to be covered.

Piece of rubber sheeting one-half size of flannel.

Binder and safety pins.

Blanket.

Wringer.

Two basins in which to heat cloths.

To abdomen:

Prepare flannel from boiling water in same way as for hot dressing, take to bedside in wringer and basin.

Place blanket over patient, folding bedclothes down half-way; turn gown over chest.

Place binder under back, then rubber sheet near.

Take cloths from wringer, shake quickly, place on abdomen, cover with rubber, turning in the edges.

Cover with dry flannel and pin binder just tight enough to hold cloths in place.

Change hot cloths every two hours, unless otherwise ordered.

Keep abdomen covered when replacing heated flannel.

When treatment is stopped, leave dry flannel over abdomen 4 to 6 hours.

To breast:

Cut a hole in the centre of stupe cloths to prevent nipple being covered.

Parchment paper is better as protective than rubber sheeting.

b. Turpentine stupes:

To abdomen:

Before applying hot cloths, apply solution of turpentine and olive oil (1-7) with applicators to abdomen and cover with a piece of thin muslin; then apply hot fomentation. Solution of turpentine to be re-applied every eight hours.

c. Mustard plaster or sinapism:

Articles necessary:

Mustard.

Flour.

Tepid water.

Thin muslin cloth a little more than twice the size ordered.

Towel.

Plaster board, or newspaper.

Preparation :

Take mustard 1 part, flour 3 to 6 parts for an adult, or mustard 1 part and flour 12 parts for a child. Mix to a thin paste with tepid water. Have the muslin ready, creased in half, and about 1 to 2 inches on the four sides; place on plaster board or on a newspaper and spread the paste over one-half of the muslin as outlined by creases. Fold the other half over the paste with the edges of both sides folded in. Insert the third edge into the sides already folded, thus making all edges even and holding the plaster as put in the cloth. If desired, the edges may be basted with long stitches.

Carry to the patient by placing in a warm towel, or on a warm plate, or in a warm basin.

Apply to the skin and cover with towel.

Use binder to hold in place, if necessary.

Leave 15 or 20 minutes or until the skin is well reddened; avoid blistering.

Method of removing:

Wash skin with soap and warm water, and if skin is too irritated, apply

vaseline or oil and cover with muslin.

If the skin is very sensitive, add white of egg or sweet oil when mixing the plaster, to prevent blistering.

d. Flaxseed poultice :

Articles necessary :

Boiling water.

Flaxseed meal.

Muslin double the size of finished poultice, and allow for folding in at the sides.

Piece of dry flannel.

Binder and safety pins.

Towel.

Saucepan and large spoon for preparation.

Preparation :

Add the flaxseed meal very slowly to the water boiling over a flame, stirring all of the time. When mixture is thick enough to fall in a mass from the spoon, remove from fire and beat until light.

Proceed as with mustard plaster.

Roll in flannel, cover with towel and take to bedside.

Apply to area slowly, as great heat may thus be borne by the patient.

Cover with flannel and hold in place with binder.

Change every two hours.

To remove:

Wash skin with soap and warm water
and dry by patting with cloth.

Leave dry flannel on the area from
4 to 6 hours.

e. Tincture of iodine:

Articles necessary:

Medicine glass with tincture of iodine.
Applicators with cotton or gauze on
end.

Kidney basin to be used as a tray.
Gauze.

Alcohol, 95 per cent., or sweet oil.

Method:

Outline the area to be painted with
the swab moistened in the iodine.

Paint the surface thus outlined with
tincture of iodine and allow it to
dry.

Apply second coat in same way, if
ordered.

Cover with gauze.

If irritation is too severe, wash area
with cotton dipped in alcohol or
sweet oil.

E. Vesicants:

1. Cantharides plaster:

a. Precautions:

Use no larger piece of plaster than or-
dered, as too much cantharides may
be absorbed and cause acute nephritis.

Watch and measure urine for 24 hours after applying.

Never apply plaster over broken skin.

Never apply adhesive plaster or tight bandages over cantharides plaster, as it may prevent blister from forming.

b. Articles necessary:

Basin with warm water and green soap.

Alcohol, 50 per cent.

Towel.

Binder and safety pins.

Plaster one inch square, unless otherwise ordered.

Never apply without exact size and location being prescribed by physician.

c. Method of applying:

If plaster is not perfectly fresh, oil its surface before applying.

Clean skin with soap and water, followed by alcohol.

Cut corners of plaster round, and apply.

Use bandage to hold in place if necessary.

d. Method of removing:

Leave on for 4 to 8 hours, if ordered.

If there is no blister in 8 hours, remove and apply flaxseed poultice, which will usually produce blister.

Have a tray with:

Scissors (sterile).

Zinc oxide ointment.

Gauze.

Adhesive.

Remove plaster carefully, without tearing skin.

Clip lower surface of blister.

Press serum out gently with cotton sponge.

Take up serum with sponges.

Apply dressing of zinc oxide, and if ordered, strap with adhesive.

HYPODERMIC INJECTIONS

Drugs for this use are put up in concentrated form (tablets). Dose usually $\frac{1}{2}$ to $\frac{1}{4}$ that ordered by mouth.

A. Object:

1. To obtain prompt action of a drug, giving quick relief from unfavorable symptoms.
2. To administer a drug when the person is unable to swallow.
3. To prevent irritation of the mucous membrane of the stomach or rectum.

B. General directions:

1. Give fresh drug only; if not fresh, an abscess is liable to result.
2. Always expel the air from the barrel.
3. Have everything sterile.
4. Never boil a drug in water.
5. If two drugs are ordered, draw in first drug, expel air, wash minim graduate with alcohol and sterile water, measure second drug in glass and draw it in the barrel.

6. If less than four minims of any drug is to be given, inject it into the deepest muscles.
7. Give vertically deep into the muscles: digitalis, quinine, bichloride of mercury, ergot, arsenic compounds, owing to their irritating nature.
8. Always give digitalis well diluted.
9. When giving hypodermics at frequent intervals, inject into the arms or legs, always rotating in the same order, giving only once in each place.
10. Insert the needle in direction of the heart and in fleshy parts of body only, as on outer surface of arms, legs, thighs; never over the bony portions.
11. After giving injection, massage around, not over the site of puncture.
12. Occasionally a capillary is punctured, which reddens an area about the site of puncture. This disappears like any bruised spot.
13. Always report to the head-nurse if a needle is broken at the time of giving injection, and save it for inspection.
14. Keep a small string tied in one end of wire to prevent it from becoming lost.
15. Leave wire in needle.
16. Oil the piston with a drop of sterile sweet oil occasionally. It may be necessary to soak the entire syringe in oil.
17. Leave hypodermic tray in faultless condition.

C. Types:

1. Subcutaneous.

2. Antitoxin serums.
3. Hypodermoclysis.
4. Lumbar injections.
5. Intravenous.

D. Drugs commonly used subcutaneously:

1. Morphine sulphate.
2. Atropine sulphate.
3. Strychnine sulphate and nitrate.
4. Apomorphine.
5. Nitroglycerine.
6. Pilocarpine hydrochloride.
7. Hyoscine hydrobromide.
8. Brandy.
9. Ether.
10. Camphorated oil.
11. Caffeine sodium benzoate.
12. Digitalis.
13. Digitaline.

E. Articles necessary:

Tray carrying:

1. Carbolic, 5 per cent.
2. Alcohol, 95 per cent.
3. Sterile water.
4. Alcohol lamp.
5. Two glasses, one with matches, one for burnt matches.
6. Standard, with spoon attached.
7. Forceps in lysol, 2 per cent.
8. Receptacle with sterile sponges.
9. Receptacle with hypodermic syringe and needles with wires.

10. When solutions are used, bottles containing the drugs, except ergot, quinine, iron and arsenic.
11. When tablets are used, bottles containing same in different strengths.

F. To prepare :

1. Boil the needle in spoon attached to standard.
2. Disinfect barrel by using:
 - a. Carbolic solution, then
 - b. Alcohol, then
 - c. Sterile water,
 - d. And note that there is no leakage.
3. If the drug is in tablet form, measure 10 or 15 minims of sterile water in the barrel, then empty this water into the spoon in which is placed the tablet in order to dissolve the same, then draw the solution into the barrel.
4. Expel the air by holding the syringe in an upright position and pressing the piston gently upward until the solution is near the exit.
5. Attach the needle by use of forceps.
6. Again hold the syringe in an upright position with the needle pointing upward and pressing the piston gently until a small drop appears at the end of the needle.
7. Carry to bedside with needle covered with cotton wet with alcohol, 95 per cent.

G. To give :

1. Cleanse the site of puncture with cotton moistened with alcohol.
2. Take up and hold firmly, between thumb and first finger of left hand, a cushion of muscle.

3. Insert needle quickly, almost vertically, and in the direction of the heart.
4. Withdraw needle slightly, and allow solution to be injected by pressing the piston gently.
5. Withdraw needle, massage area gently with a sponge.

H. To clean hypodermic syringe:

1. Proceed as when preparing to give hypodermic except allowing the needle to be attached to the barrel.
2. Remove needle and insert wire, always leaving the tray in unquestionable condition.

I. Record:

Hour, drug and amount (hypo.) in *red* ink.

ADMINISTRATION OF ANTITOXIN

Injection is usually given subcutaneously, in tissues of the thigh, abdomen or chest, along the posterior line below the scapula and down to the waist line. It is sometimes given intravenously; if so, it is done by the interne.

A. Articles necessary:

1. Tincture iodine.
2. Applicators.
3. Two medicine glasses.
4. Collodion dressing.
5. Antitoxin.

B. Method:

1. Give in side most convenient for patient.
2. Paint the part with iodine.
3. The needle should be pointed upward, plunged slowly, and the contents forced upward until

all air is expelled and a drop of the antitoxin serum appears on the point of the needle.

4. Catch a good firm hold of the flesh, then insert the needle quickly, through the skin, which is held firmly between the thumb and index finger.
5. Slowly inject the serum.
6. Withdraw the needle quickly.
7. Apply collodion dressing.

LAVAGE

A. Object:

1. To wash the inside of the stomach.
2. To remove poisons and irritating matter.
3. To relieve nausea.

B. General instructions:

1. Gain the confidence of the patient
2. When inserting the stomach tube, do not use force and avoid striking the posterior wall of the pharynx.
3. When pouring in the fluid, do not allow the funnel to become empty.
4. Discontinue the treatment at once, if blood appears during siphonage.

C. Articles necessary:

1. Sterile stomach tube and funnel.
2. Pail or large jar.
3. Two rubber sheets.
4. Towel.
5. Kidney basin.
6. Two cloths for handkerchiefs.
7. The solution ordered by the doctor at the tem-

perature required; if sterile water is ordered, prepare two pitchers, 105 and 115 degrees F., respectively.

8. Basin containing ice, to cool the tube.
9. Cork, piece of roller bandage or spool, to put between the teeth, when necessary.

D. Method:

1. Cover rubber sheet with towel, turning it over the edge, and place it about the patient's neck.
2. Place pail on floor near patient, under which is a second rubber sheet, for the protection of the floor.
3. Estimate the distance from the mouth to the stomach of the patient and measure this length, approximately, on the tube and allow two inches more.
4. Have the patient in such a position as to allow the esophagus to be in a straight line.
5. Have the head of the patient supported and insert the tube.
6. When the tube reaches the pharynx, urge the patient to breathe deeply and swallow frequently and continue to gently press the tube until the estimated point has been reached.
7. Never use force.
8. Pour the solution into the funnel, holding the funnel not too high above the patient's head. Continue until a pint has been introduced into the stomach. Then lower the tube over the pail before the solution has entered the stomach and siphon.

9. Repeat in accordance with the doctor's orders or until the water returns clear.
10. When removing tube, pinch it tightly, so that any water in the tube may not drop back into the trachea.

E. Record:

1. Time and treatment given.
2. Character of solution first returned.
3. Amount of water used before a clear return.
4. Any abnormal conditions present.

GAVAGE

A. Object:

1. To introduce food into the stomach.

B. Articles necessary:

1. As for lavage, except the pail and one rubber sheet.
2. Six to eight ounces of prepared food in a glass graduate or pitcher, according to the doctor's orders.

C. Method:

1. Introduce tube as for lavage.
2. Pinch the tube, wait a few seconds before introducing the food, noting respirations.
3. Pour the liquid into the funnel slowly and at the side.
4. Pinch the tube, withdraw it gently but quickly.
5. Have the patient remain quiet after the treatment.

D. Record:

1. Hour of feeding.
2. The preparation of food given and amount.
3. Result.

NASAL FEEDING**A. Object:**

1. To introduce food into the stomach, through the nasal passages.

B. Ordered:

1. When patient is unmanageable.
2. When patient is in coma.
3. Following some operations.

C. General instructions:

1. Keep patient in a recumbent position.
2. If there is difficulty in inserting the catheter into one nostril, try the other.
3. Watch the tube that it does not coil in the mouth.
4. Avoid getting the tube in the trachea.
5. Hold funnel to ear or invert it into water, before pouring in the fluid.
6. Watch the face of the patient; if cyanotic, withdraw the tube at once.

D. Articles necessary:

1. Small catheter with small funnel.
2. Sterile vaseline.
3. Glass filled with water.
4. Towel.
5. Cloth for handkerchief.
6. Graduate glass containing warm food.

E. Method:

1. Place patient's head so that the esophagus is in a straight line.
2. Place towel about neck, with one end protecting pillow at side of head.

3. Insert tube into nostril and down into esophagus.
4. Test, to know that the patient is not breathing through the catheter.
5. Pour food into the funnel slowly.
6. Pinch the catheter when withdrawing.
7. When feeding a small child, wrap it tightly in a sheet or blanket to control any struggle on its part.

TEST MEALS

A. Object:

1. To aid diagnosis by determining:
 - a.* Motor function of stomach.
 - b.* Reaction of gastric juice.
 - c.* Absorbing power of stomach.

B. General directions:

1. Give on empty stomach.
2. See that patient does not take anything afterwards, until meal is removed.
3. Caution patient to masticate slowly and thoroughly.
4. Remove promptly at time desired.
5. When removing—precautions same as for lavage.

C. Types:

1. Ewald's test breakfast:
 - a.* Two small pieces of dry toast.
 - b.* Eight ounces of clear tea.
 - c.* Remove in one hour, or as ordered.

2. Boas' test breakfast:

- a. Six ounces strained oatmeal gruel.
- b. Remove in one hour.

3. Motor meal:

- a. A dinner served of foods that have a great deal of cellulose, such as vegetables with fibre—turnips, cabbage, etc.
- b. Fruits with skins, etc.
- c. Small serving of meat.
- d. Remove in 7 hours.

D. Articles necessary for removing (aspirating stomach):

1. Same as for lavage—except stomach pump and drainage pail and rubber sheet.
2. Sterile stomach tube with aspirating bulb.
3. Sterile specimen bottle.

E. Method:

1. Prepare patient and pass tube as in lavage.
2. Expel air from bulb, attach to tube—it must be air tight.
3. When bulb is fully expanded, detach, empty contents into specimen jar, and repeat until all contents are removed.
4. Cover jar securely, tag, and send to laboratory.

F. Record:

1. Hour test meal given, and kind.
2. Hour test meal removed, and sent to laboratory.

STEAM INHALATIONS**A. Object:**

1. To relieve spasmodic breathing.
2. To disinfect bronchial secretions.

3. To stimulate expectoration.
4. To afford comfort to the patient.

B. Types:

1. Pitcher and towel method.
2. Tea-kettle and cone.
3. Croup tents.

C. Pitcher and towel:

1. Pour prescribed drug into pitcher of boiling water.
2. Wrap pitcher with heavy towel, leave a small opening through which the vapor can be inhaled.

D. Tea-kettle and cone. When the inhalation is to be continued for some time:

1. Pour medicated water into kettle and keep it boiling over a gas or alcohol flame.
2. Attach to spout of kettle the small end of a cone of stiff paper, or a piece of rubber tubing with a funnel on free end, which is placed conveniently for patient to inhale steam.

E. Croup tents:

1. General instructions:
 - a.* Have steam directed away from patient's face.
 - b.* Avoid danger of fire, from lamp.
2. Articles necessary:
 - a.* Four sticks, four or five feet long.
 - b.* Eight bandages or heavy cord.
 - c.* One blanket.
 - d.* Two or three sheets.
 - e.* Bucket.

- f.* Two or three bricks.
 - g.* Alcohol lamp.
 - h.* Tea-kettle with medication, as ordered.
 - i.* Rubber tubing, with funnel attached.
 - j.* Safety and common pins.
3. Method:
- a.* Tie the lower ends of sticks firmly, with bandage or strong cord, to each corner of bedstead, below mattress.
 - b.* Stretch bandage tightly from free ends of sticks, to form the basis for pinning blankets and sheets for canopy.
 - c.* Place blanket, lengthwise, at head of bed, outside of frame, so that the lower edge comes to the edge of the mattress.
 - d.* Fix the rubber tubing, with funnel, to blanket above the patient's head and directed away from the face. It may be placed at the side of the bed, if desired.
 - e.* At right side of bed, place a sheet lengthwise, with the lower border just below the line of the mattress. Pin on bandage, using as many sheets as necessary to make the tent. Pin the edges of the sheets together over the bed neatly.
 - f.* Fold back one corner of sheet on top of canopy, to admit air.
 - g.* Place bucket, containing the alcohol lamp and tea-kettle containing the solution, at head of bed, supported by the bricks.
 - h.* Attach free end of tubing. Light lamp.

CHAPTER VI

DRESSING ROOM

DUTIES OF DRESSING ROOM NURSE

A. Day nurse :

1. Assists with dress cases.
2. Is responsible for the application of hot dressings.
3. Prepares extra dressings to be sterilized and has them ready to send to the sterilizing room at 5.30 P.M.
4. Prepares protective strips.
5. Sterilizes vaseline and oil preparations.
6. Keeps jars, etc., supplied with suture material.
7. Is responsible for the fulfilment of extra orders.

B. Night nurse :

1. Every night :
 - a. Cleans dressing room furniture and dressing cart.
 - b. Boils water, in cans, for sterile water supply.
 - c. Sterilizes all pitchers, basins, irrigators and douche cans. Pitchers, basins and irrigators are put in sterile bags and properly placed ; douche cans, covered with a sterile towel, are placed bottom side up on a shelf which has been covered with a sterile towel.

FIG. 28.—Laparotomy sheet showing strips of gauze pinned in right hand pockets, and as used, placed in left hand pockets.



be contaminated, it must be resterilized before being used.

C. Preparation of sterile supplies :

1. Steam :

Cover, in envelope fashion, towels, sheets, gowns, sponges, dressings, gloves, etc., with closely woven material large enough for all edges to overlap.

Do not make these packages too compact.

Use as few pins as possible, quilting the pins through the cover, having only the head exposed.

Bags with draw-strings are best for covering basins, pitcher, etc.

Place in autoclave for 1 hour, under twenty pounds pressure.

2. Boiling :

a. Rubber articles, as catheters or colon tubes : Cleanse articles. Fold or tie in muslin and place in a large quantity of salted water.

b. Medicinal agents in jars or bottles : Place the jars or bottles in a receptacle, protecting the bottom with muslin and covering with as much tepid water as possible without floating the jar or bottle. Loosen the lid or cork.

c. Pitchers, basins, etc. : Clean and place in a receptacle sufficiently large to cover with water. Cover receptacle.

d. Instruments : Cleanse each instrument separately, carefully and thoroughly,

avoiding the sharp edges. Wrap sharp instruments in cotton or gauze separately. Place the heavier instruments in lower part of rack, rolled in towel or muslin. Place more delicate instruments, carefully wrapped, on top of heavier instruments.

e. Glass: Cleanse, protect in muslin, place in a large amount of tepid water.

f. Oil: The same as for medicinal agents.

3. To disinfect instruments, basins, pitchers, etc., chemically:

a. Immerse small instruments in carbolic acid, 95 per cent., and then neutralize thoroughly in alcohol, 95 per cent. Rinse in sterile water.

b. Glass catheters, douche points, rubber goods, medicine stoppers, medicine glasses, irrigating tips, should never be chemically sterilized in 95 per cent. carbolic acid.

c. Pitchers, basins, irrigators, and sometimes towels or muslin, are disinfected by immersing in bichloride of mercury, 1 to 1,000, or carbolic acid solution, 5 per cent., for one hour.

E. Handling sterile supplies:

1. Forceps for handling sterilized materials should be cleansed, boiled and placed in a sterile jar containing fresh lysol solution, 2 per cent. This must be done daily, or in case of accident, more often. Never allow

the hand or arm to pass across an open sterile receptacle or disinfected field. If articles are in cover, remove the pins, open carefully, holding the sterilized corners underneath the package. Never touch the inside of the cover. The contents may be removed by forceps into a sterile basin, or they may be dropped upon the disinfected field, or removed by a disinfected hand.



FIG. 29.—Sterile vaseline and Beck's paste in glass syringes used for dressings, showing cover for end of syringe.

2. Keep the articles covered by a sterile cloth or towel, or when in basin one basin may cover another. Always hold the basin by pressing the hands on the sides, or holding it by placing the hands beneath the bottom of the basin; never grasp it with the fingers over the rim.

3. Sterile pitchers: Keep covered with sterile towel or cloth. Grasp at the lower part of handle or support bottom on the hand; never grasp by the lip.
4. Sterile supply jars: Lift the lid straight up from the jar, and remove contents with forceps. If necessary to put lid down, place with the bottom side up, so that the inner rim will not come in contact with any unsterile thing. In replacing lid on jar, avoid striking it against the sides of the jar.

F. Pouring solution:

1. When the bottle is full, remove stopple by lifting the same between the first and second fingers of the right hand with the palm upward.
2. Clean the mouth of the bottle with disinfectant solution on sponge, then grasp the bottle, having the label side toward *the palm*, and pour the solution.
3. Wipe off the mouth, set the bottle in its proper place, label visible, and drop the stopple in position.
4. In case of large bottle, remove stopple, place it inverted on table and use both hands in pouring solution and follow the foregoing rules as to other procedures.
5. In case no disinfectant is available, a small amount of solution may be poured from the mouth of the bottle to cleanse the same, holding over a sink or basin, and never over the floor.

G. Disinfection of hands for catheterization and ward dressings:

1. Wash hands and arms to elbows with soap and running water and clean nails.
2. Then scrub each hand with a stiff brush for two minutes in the following order:
 - a.* Forearm and wrist.
 - b.* Knuckles and back of hand.
 - c.* Back and sides of fingers, separately.
 - d.* Thumb and palm of hand and inside of fingers.
 - e.* Nails.
 - f.* Clean nails with blunt-pointed orange-wood stick.
 - g.* Scrub forearm and hands in the same order for one minute each.
 - h.* Rinse hands and soak in lysol solution two minutes. To prepare lysol solution, use forty minims of lysol to one pint of sterile water in a sterile basin.
3. Precaution:
 - a.* Keep hands held so that there is no possible way of touching any article, or if necessary to wait for any length of time, fold same in a sterile towel.

SOLUTIONS

NOTE.—These formulæ are sufficiently accurate for practical purposes.

Bichloride of mercury (corrosive sublimate):

One to five hundred, bichloride of mercury, drams 2,
by weight.

Sodium chloride, drams 10, by weight.

Cold sterile water, gallon 1.

Dissolve the bichloride and sodium chloride in one-half pint of sterile water. Filter this into sufficient sterile water to make one gallon. This solution may also be made without the sodium chloride.

Boric acid (boracic acid):

Saturated solution contains about 6 per cent. boric acid. Dissolve 7 ounces of boric acid crystals in 1 gallon of sterile water.

Carbolic acid (phenol):

Ninety-five per cent.: Measure 3 drams of hot water and add melted carbolic acid crystals sufficient to make 8 ounces. Mix thoroughly until clear. Filter, if necessary.

Five per cent.: Measure 7 ounces of the 95 per cent. carbolic acid and add sufficient cold sterile water to make 1 gallon. Mix thoroughly.

Dakin's solution:

Prepare two solutions, as follows:

1. Chloride of lime, ounces 2; water, gallons $2\frac{3}{4}$.
2. Sodium bicarbonate, $4\frac{1}{2}$ ounces; sodium carbonate, $4\frac{1}{2}$ ounces; water, 2 gallons.

Allow each to stand 24 hours, before mixing. Pour off the clear solution and strain. Keep in dark bottles or jugs.

Formaldehyde (formalin):

One per cent.: Measure $6\frac{1}{2}$ drams liquid formaldehyde and add sufficient cold sterile water to make 1 quart.

One to one thousand: Measure 38 minims liquid formaldehyde and add sufficient cold sterile water to make 1 quart.

Green soap :

Green soap, 1 pint ; water, 1 pint. Boil and stir until dissolved. It should be the consistency of syrup.

Locke's solution (given as an enema or hypodermoclysis) :

Sodium chloride, gr. 276.

Calcium chloride, gr. 7.

Potassium chloride, gr. 13.

Sodium bicarbonate, gr. 9.

Dextrose, dr. $\frac{1}{2}$.

Distilled water, pt. 4.

Lysol :

Two per cent. : Lysol, drams 5 ; sterile water, 1 quart.

Salt :

Stock: Sodium chloride, $1\frac{1}{2}$ ounces by weight ; water, 8 ounces. Boil in a closed vessel for 15 minutes. When cool, add sufficient sterile water to make 8 ounces. Strain through sterile cotton into a sterile bottle and keep well stoppered.

Normal: Measure 1 ounce and $3\frac{1}{3}$ drams of stock solution and add sufficient sterile water to make 1 quart. Normal salt solution should carry $127\frac{1}{2}$ grains of salt to 1 quart of water.

SOLUTION TABLE

1-500	Use 1	gr. or 1 m	to 1 oz. or 16	gr. or 16 m	to 1 pt.
1-1000	Use $\frac{1}{2}$	gr.	to 1 oz. or 8	gr. or 8 m	to 1 pt.
1-2000	Use $\frac{1}{4}$	gr.	to 1 oz. or 4	gr. or 4 m	to 1 pt.
1-3000	Use $\frac{1}{6}$	gr.	to 1 oz. or $2\frac{2}{3}$	gr.	to 1 pt.
1-4000	Use $\frac{1}{8}$	gr.	to 1 oz. or 2	gr. or 2 m	to 1 pt.
1-5000	Use $\frac{1}{10}$	gr.	to 1 oz. or $1\frac{1}{2}$	gr.	to 1 pt.
1-10,000	Use $\frac{1}{20}$	gr.	to 1 oz. or $\frac{3}{4}$	gr.	to 1 pt.

PERCENTAGE TABLE

1	Per cent.	Use 5 gr. to 1 oz. or 76 gr.	to 1 pt.
2	Per cent.	Use 10 gr. to 1 oz. or 153 gr. (2½ dr.)	to 1 pt.
3	Per cent.	Use 15 gr. to 1 oz. or 230 gr. (3¾ dr.)	to 1 pt.
4	Per cent.	Use 20 gr. to 1 oz. or 308 gr. (5 dr.)	to 1 pt.
5	Per cent.	Use 24 gr. to 1 oz. or 384 gr. (6½ dr.)	to 1 pt.
10	Per cent.	Use 48 gr. to 1 oz. or 768 gr. (13 dr.)	to 1 pt.

BINDERS

A. Object:

1. To keep applications and surgical dressings in place.
2. To make compression.
3. To limit motion.
4. To afford support and comfort to the patient.

B. Precaution:

1. Carelessly and inefficiently applied binders are worse than none.

C. Types:

1. Scultetus for abdomen.
2. Straight for abdomen.
3. T binders.
4. Straight binder for chest.

1. Scultetus:

- a. Pass half of bandage (rolled) under patient in such a way that centre of bandage will come to centre of back.
- b. Apply bandage from above toward pubes, folding strips alternately and obliquely.
- c. Place two safety pins at end which is folded over last.
- d. Place one safety pin in centre of

bandage so that it holds all folds, except the first two.

2. Straight abdominal binder :

- a.* Fold over front edges to fit form of patient.
- b.* Quilt pins down centre with pins crosswise of abdomen.
- c.* Adjust two perineal straps to hold abdominal bandage in place.
 1. Pin ends of each strap under lower edge of binder, two inches from median line, in front.
 2. Bring down smoothly over groin, around each leg to back of binder, and pin as in front.

3. T binders for perineum :

- a.* Bring up, over perineum, the strip attached to back of straight band, which encircles the waist, to hold dressings in place.
- b.* Pin to binder, in front.

4. Straight binder for chest :

- a.* If for compression, place cotton between and under breasts.
- b.* After bringing breasts in proper position, away from axillæ, pin tightly, beginning at centre of bandage, then pinning from the lower edge of bandage, to the upper edge.
- c.* Pin straps over shoulders and darts under both breasts.
- d.* Have pressure even.

TRIANGULAR BANDAGE AND SLINGS

These are made of muslin, one yard square and doubled diagonally in the shape of a triangle. The diagonal line is known as the base and the corner opposite, the apex.

A. To apply to injured forearm:

1. Flex the arm in the desired position.
2. Carry the base of the triangular bandage from 2 to 3 inches beyond the median line, on the injured side of the body.
3. Support arm and hand by bringing the ends to the back of neck and tie, or fasten to clothing with safety pin.
4. Bring apex of triangle around elbow and fasten it back of the elbow.

B. To apply, as a support, if arm is injured:

1. Fold sling in shape of a cravat by bringing apex of triangle to its base and fold several times, until three inches wide; place wrist in centre of sling and fix the ends at back of neck. Pin it a few inches above the wrist, to the clothing.

C. The triangular bandage, of different sizes, is also used to fix dressings on hand, foot or head.

The base is laid under wrist or ankle, the apex brought over fingers or toes, the ends crossed and brought around, tied on the upper side.

When used for the head, the centre of the base is placed opposite the injured part, the apex made to cover the dressings, the ends crossed and brought around, tied at centre of the base in a reef knot.

There is no part of the body where this triangular bandage cannot be used.

.POSITIONS AND DRAPING FOR EXAMINATIONS

A. Object:

1. To protect the patient during examination and treatment.
2. To aid in examining different parts of the body with comfort to the patient.

B. General instructions:

1. Avoid all unnecessary exposure of any portion of the body to be examined or treated.
2. Protect a patient from other patients in a ward by the use of screens.
3. Have ready suitable basins, soap and clean towels for use of examining physician, before and after examination.

C. Types:

1. Throat.
2. Chest.
3. Abdominal.
4. Extremities.
5. Rectal.
6. Vaginal.

1. Throat:

a. General instructions:

1. Have patient in position so that a strong light, at the examiner's back, can be thrown upon the throat of the patient.
2. If examiner uses head mirror, have light always in front, either natural or artificial.
3. When there is much coughing, the nurse or examiner may protect the eyes with spectacles.

b. Articles necessary :

1. Tray containing :

- a.* Towel.
- b.* Tongue depressors or spoon.
- c.* Wooden applicators wound with absorbent cotton.
- d.* Paper bag or basin for soiled depressors.
- e.* If solution is ordered, have solution in medicine glass.

c. Method :

1. Place towel over patient's chest and shoulders.
2. Always hold the tongue depressor in the middle so that the fingers do not touch the portion which is to go into the patient's mouth.
3. After a tongue depressor has been used, it should never be placed on a chair, table or bed, but immediately in a paper bag or in a piece of paper and burned.
4. To hold a towel or napkin under the chin during a simple examination of throat, tie a loose knot in one corner and insert in the neck of gown or dress.
5. To restrain a child during an examination of the throat :

- a.* Fold backward one corner of a sheet and place this bias under the chin. Then wrap the sheet about the child so that the arms are restrained at the sides and seat the child on the lap so that the weight of the child holds the sheet in place.
- b.* The child's head can be placed against the left shoulder of the nurse and her left hand hold it in place.
- c.* The nurse's feet crossed over the child's feet, completes the restraint.

2. Chest:

a. General instructions:

1. Have room warm and free from draughts.
2. Have your hands warm.
3. In cold weather use blankets for protection of the patient during examination; in warm weather sheets may be used.
4. Always have patient turn face away from the side the doctor is examining.
5. Use auscultation towel, if doctor so desires.

b. Method:

1. Up patient:

- a.* Remove all clothing from upper part of body.
- b.* Place sheet, folded shawl fashion, about shoulders, pinning it in front.
- c.* Have patient sit on stool or chair, so that the front and back are accessible.
- d.* If doctor examines front of chest, fold sheet back over shoulders; if back, the sheet is turned around, opening in back, and then folded over shoulders.

2. Bed patient:

- a.* Always hold towel between patient's face and doctor's head.
- b.* If patient is able to sit up, drape as for up patient.
- c.* If not able to sit up, either remove gown and place a towel over chest, or roll hem of gown up, inside of gown, to the neck so that it does not interfere with the examination, and cover same with towel.
- d.* To examine the back, turn patient on side most com-

fortable and roll gown up in same manner and cover body with towel.

3. Abdominal:

a. General instructions:

1. Have patient empty bladder just previous to examination.
2. Have patient lie straight in bed, on back, knees flexed to relax abdominal muscles.

b. Method:

1. Turn all bedding back, except sheet, nearly to knees and cover patient with towels or blanket.
2. Fold sheet snugly and smoothly across pubes and groins.
3. Place towel over abdomen, at the same time drawing up gown and rolling it just above the waist line.
4. During the examination, the towel is removed from the abdomen.

4. Lower extremities:

a. Method:

1. Loosen bedding from foot of bed.
2. Fold spread and blanket upward.
3. Leave the sheet to use for preventing unnecessary exposure of extremities.
4. When both legs are being examined, bring sheet between thighs.

5. When necessary to turn patient on side to examine thigh, protect the patient with extra sheet or towel between thigh and over buttocks.
5. Rectal:
 - a. General instructions:
 1. Have rectum empty and clean, having given enema, if ordered.
 - b. Method:
 1. Place patient in dorsal, knee-chest, Sim's or dorsal-lithotomy position, draping as for vaginal examination.
 2. When necessary, have ready rectal speculum, with sterile oil or vaseline for lubrication, small cotton sponges, sterile rubber gloves and paper bag for waste.
6. Vaginal:
 - a. General instructions:
 1. Have towels, sheets, sterile gloves, instruments and lubricants prepared.
 2. Have patient urinate just before examination.
 3. Have rectum empty.
 4. Have external parts scrupulously clean.
 5. Have patient relax as much as possible, by taking a series of long, deep breaths.



FIG. 30.—Detail of gynecological sheet used in the operating room.

6. Protect the patient's sensibilities and sense of modesty by control of speech and facial expression.

D. Positions:

1. Dorsal:

- a. Patient flat on back, one pillow under head.
- b. Knees separated and slightly flexed.

2. Lithotomy:

- a. In bed: patient on back, across bed, buttocks slightly beyond the edge of mattress, hips slightly elevated with pillows; knees flexed on abdomen and fastened in position by a strap or by a folded sheet, passing upward over one shoulder and down over the opposite, and pinned about flexed knees.
- b. On examining table: patient arranged the same except without the leg support; the feet are placed in stirrups on each side of table at foot of same.

3. Knee-chest or genu-pectoral:

- a. Place patient on examining table.
- b. Allow one small pillow, only, for head.
- c. Patient rests on chest and knees, knees slightly separated; face turned on side, resting on pillow; thighs perpendicular; arms free on both sides. Watch pulse.

4. Sim's:

- a. Patient lies on left side; right knee flexed higher than left and drawn up nearly to

abdomen; left knee slightly flexed; left arm is drawn under the side to back; right arm free, in front.

5. Standing:

- a. Patient stands with knees separated about 10 inches, one foot on a low stool or rung of chair.

6. Trendelenburg:

- a. Patient lies on back, on examining table, thighs elevated on incline plane, 45 degrees, legs, from knees down, on other side of plane from thighs.
- b. To prevent patient from slipping, shoulder supports are used.
- c. Be careful, when lowering table, to watch the position of arms, hands, and skin of patient that they are not caught between the upper part and frame of table.

E. Draping for dorsal and knee-chest positions:

1. Loosen clothing and tuck back, out of the way.
2. Place draping sheet diagonally over patient.
3. Flex knees and keep them well separated.
Twist the opposite corners about each foot and fasten on the outside.
4. Place a folded towel under buttocks.

F. Draping for other positions:

1. Sim's: cover patient with draping sheet, having prepared the clothing and placed a towel under buttocks.
2. Standing: drape sheet about body, after having the clothes out of the way, with the open side of the sheet convenient for the examiner.

APPLICATION OF HOT DRESSINGS**A. Object:**

1. To produce hyperemia.
2. To promote suppuration.
3. To soften necrotic tissues and aid in their removal.
4. To relieve pain.

B. General instructions:

1. Keep dressings hot.
2. Apply as hot as can be comfortably borne.
3. Avoid burning patient.
4. If affected area becomes reddened by continuous application, anoint with vaseline.

C. Articles necessary:

1. Dressings, made of cotton and gauze.
2. Stupe wringer.
3. Basin.
4. Parchment paper, moistened.
5. Cotton.
6. Roller, triangular or many-tailed bandage.
7. Paper bag, for waste.

D. Method:

1. Place dressings in stupe-wringer and bring to boiling point, in basin of boric solution. (Boric acid, 1 ounce, to water, 1 quart.)
2. Wring the dressings dry, while in the stupe-wringer.
3. Carry the stupe-wringer, with enclosed dressings, in a basin to the bedside.
4. Remove soiled dressings, putting them in bag.
5. Remove dressings from wringer, shake out once and apply to the affected area.

6. Cover with moistened parchment paper, cotton and apply bandage.
7. Change every two hours, unless otherwise ordered.
8. A hot water bag may often be used close to the dressings, to keep them hot for a longer period of time. An electric light bulb, on an extension cord, may be held a little distance from small dressings, to keep them warm. An electric light bulb should never be left closely covered, as it then becomes a likely cause of fire.

EXTERNAL DOUCHE

A. Object:

1. To cleanse parts.

B. General instructions:

1. Avoid scalding patient.
2. Use aseptic technic.

C. Articles necessary:

1. Pitcher of sterile solution, covered with a sterile towel, enclosing one sterile pad and seven sterile sponges.
2. Douche pan, paper bag.

D. Method:

1. Prepare patient the same as for vaginal douche.
2. Wrap thumb and forefinger with sponges.
3. Separate labia and pour solution over parts, slowly and with force. Hold pitcher 18 inches above patient.
4. Remove douche pan, dry, re-adjust dressing and binder.

VAGINAL DOUCHE

A. Object:

1. To cleanse vagina.
2. To arrest local hemorrhage.
3. To relieve inflammation.

B. Time:

1. When ordered by the doctor.

C. Types:

1. Cleansing and stimulating. Solutions usually ordered:
 - a.* Sterile water, temperature 105 degrees F.; quantity, 2 quarts.
 - b.* Normal salt solution.
 - c.* Lysol solution, $\frac{1}{2}$ per cent.
 - d.* Iodine solution: dram 1 to water 2 quarts.
 - e.* Potassium permanganate solution, made by putting the crystals in gauze and letting them dissolve in water until it is the color of royal purple.
 - f.* Bichloride of mercury, 1 to 4000, followed by sterile water.
2. Reducing inflammation and arresting hemorrhage.
 - a.* Salt solution.
 - b.* Sterile water, temperature 110 to 120 degrees F.; quantity, 2 quarts.

D. General instructions:

1. Have the solution prepared in the exact strength and temperature ordered.
2. Avoid burning the patient when giving hot douches by allowing the solution to run

- more slowly and with less force than when giving the usual douche.
3. Do not allow air to be injected into the vagina with the flow of the solution.
 4. Do not give douche, if patient is menstruating, unless ordered by the doctor.
 5. Have the douche pan warmed or place a cover over the pan on which the patient's buttocks rest.
 6. Examine douche nozzle and know that it is not rough, cracked or broken.
 7. Always give a douche to patient while in a recumbent position ; never when in a sitting position.
 8. Have douche can elevated not more than two feet above the patient, so that the solution will not run with too great a force.
 9. For infectious cases, elevate the can just enough to allow the solution to flow ; protect self by wearing rubber gloves.
 10. Have patient remain quiet one hour after giving douche.
 11. Always sterilize all articles, except thermometer, by boiling.
 12. Always disinfect hands before and after giving douches.

E. Articles necessary :

1. Graduate measure.
2. Thermometer, disinfected with carbolic, 5 per cent., and alcohol, 50 per cent., and rinsed with sterile water.
3. Blanket.

4. Douche pan.
5. Tray with :
 - a. Sterile towel in which is wrapped two glass douche points, sterilized by boiling five minutes, and nine sterile sponges.
 - b. Paper bag.
 - c. Douche can, covered, containing solution as ordered.

F. Method:

1. Place screens about bed.
2. Pin paper bag to bed
3. Fold all covers, except sheet, down half-way over foot of bed. Cover chest with blanket and drape.
4. Place douche pan under patient.
5. Cleanse external genitals with sponges.
6. Attach nozzle to tubing.
7. Wrap thumb and forefinger of left hand with sponges.
8. Separate and hold external labia apart with wrapped fingers and let solution run through tubing until it is warm and allow a small amount to flow over the exposed parts.
9. Control the flow by pinching the tubing and insert douche point, gently, into vagina, pointing it downward and backward, not allowing it to touch the external parts.
10. Remove the nozzle from the vagina before the solution has all been used; allow the balance of the solution to drain into the douche pan; remove nozzle from tubing, wrap in paper and place in receptacle used for soiled points.

11. All solution should drain from vagina before removing douche pan, the parts dried.
12. If there are perineal stitches, dry with sterile sponges, being careful not to pull or irritate them.

G. Care of articles :

1. Clean douche pan and tubing.
2. Douche cans are sterilized each night ; between times, the inside must be kept sterile.
3. Leave stop-cock open.
4. Cleanse and boil nozzle.

H. Record :

1. Hour given ; kind and strength of solution used.
2. Character of return flow.

CATHETERIZATION

A. Object :

1. To remove urine from the bladder

B. Time :

1. When ordered by the doctor.

C. General instructions :

1. Avoid catheterizing, if patient can be induced to urinate, unless definitely ordered. Try the following ways:
 - a. Allow water to run from a faucet within hearing of patient.
 - b. Pour, gently, warm water over the vulva.
 - c. Have hot water in the bed pan.
 - d. By partially sitting up, if allowable.
 - e. By allowing patient to dabble hands in hot water.

- f.* Apply hot water bag over bladder.
- g.* Allow a slight whiff of ammonia.
- 2. Never catheterize without written orders.
- 3. Use aseptic technic.
- 4. Never use force when inserting a catheter.
- 5. If bladder is greatly distended, draw no more than one pint of urine at one time, to avoid danger of collapse of bladder wall.
- 6. Never catheterize a delirious or a pregnant patient with a glass catheter; use a rubber catheter.
- 7. Always inspect a glass catheter and know that it is not rough, cracked or broken.
- 8. Always use screens and drape.

D Articles necessary:

- 1. Tray on which are:
 - a.* One sterile towel in which are wrapped nine dry sterile sponges.
 - b.* Two sterile glass or rubber catheters, as necessary.
 - c.* Basin containing warm boric acid solution, 2 per cent.
 - d.* Paper bag.
 - e.* Douche pan or sterile kidney basin.
 - f.* Rubber gloves for infectious cases.
 - g.* For specimen, have ready a sterile bottle and sterile tubing attached to catheter.

E. Method:

- 1. Place screens about bed.
- 2. Place patient in dorsal recumbent position and drape.

3. Place bedside table at the foot of bed, right side.
4. Pin paper bag on bed, within reach.
5. Disinfect hands.
6. Place towel over hips.
7. Cleanse external genitals with boric solution and sponges.
8. Wrap thumb and finger of left hand with sponges.
9. Separate and hold external labia apart with wrapped fingers.
10. Cleanse surface with sponges, wiping downward and using each sponge but once.
11. Cleanse internal labia in same manner.
12. Wipe meatus with clean sponge and place a second clean sponge just below the meatus.
13. Inspect and then insert catheter, without force, directly into meatus, asking patient, at this time, to breathe deeply, as an aid in inserting the catheter.
14. In case the catheter touches any unsterile surface, use another catheter.
15. If necessary, gentle pressure with hand, over bladder, may assist in the urine being expelled.
16. When removing, in order to retain the urine in the catheter, close the open end of a glass catheter or pinch a rubber catheter with the fingers.
17. Cleanse parts with boric solution, dry and leave patient in a comfortable condition.
18. Measure the urine, or if a specimen is to be

retained, estimate the amount retained for same.

19. Wash and boil the catheters.

F. Record:

1. Hour: amount of urine in urine column, indicating "per cath." In remarks column, note character of urine; if there is blood, pus or a sediment, note whether it is mixed with the urine or whether at the beginning or end of the flow.

VESICAL DOUCHE

A. Object:

1. To cleanse bladder.

B. Time:

1. When ordered by doctor.

C. General instructions:

1. Same as for catheterization.
2. Do not over-distend bladder with cleansing solution.

D. Articles necessary:

1. As for catheterization and sterile glass funnel with six-inch rubber tubing attached.
2. Sterile boric acid solution or normal salt solution, 105 degrees F.

E. Method:

1. Catheterize patient and without withdrawing catheter, attach rubber tubing with funnel, to same.
2. Pour in solution, slowly, six to eight ounces, without injecting air.

3. Invert funnel, before it is empty, and siphon two-thirds of the amount given.
4. Pour in four to five ounces and siphon.
5. Repeat until solution returns clear, using from twelve to sixteen ounces.

IRRIGATION OF EYE

A. Object:

1. Cleanliness.
2. Control of infection.

B. General instructions:

1. In cases where there is a copious discharge, the nurse should protect herself by wearing gown, rubber gloves, and in some cases the eyes may be protected by the use of eye-glasses.
2. If patient is able, irrigation should be done in dressing-room. If patient is unable to go to dressing-room, prepare for bedside care.
3. Always use glass irrigator and irrigating points unless medicine droppers are specified.
4. If only one eye is to be treated, protect the other eye by use of pad or dressing. If both eyes are to be treated, a sterile point should be used for each eye and the hands of the nurse cleansed before any procedure, between the care of the eyes and after the care.
5. Always direct the stream from the inner toward the outer canthus of the eye and dry with cotton, wiping in the same direction.
6. Never use force in opening the eyelids or allow the stream of solution to flow from a height more than eight inches above the patient.



FIG. 31.—Pocket formed by holding lower lid for the eye drop.

C. Articles necessary :

1. Glass irrigator.
2. Sterile irrigating points.
3. Rubber sheet, Kelly pad or kidney basin.
4. Solution as ordered.
5. Receptacle for waste, when Kelly pad or rubber sheet is used.

D. Method :

1. For bedside care, protect pillow.
2. Place head so that injured eye is near edge of bed.
3. Irrigate the lids until the lids can be opened without force and continue irrigation until clean, holding the lids apart. Dry.
4. Thoroughly cleanse and sterilize utensils and put in place.

E. Application of medicine to eye :

1. In using unguentum, apply with usual sterile applicator.
2. In using solutions : grasp lower lid with thumb and index-finger and pull lid away from eyeball gently. Drop solution into this triangular pocket and have patient close eyelids.
3. To evert the lower lid, place thumb near margin, press it downward, while patient looks upward. To evert upper lid, hold lashes with thumb and index-finger of right hand, draw lid downward, having patient look downward ; place a thin pencil, tooth-pick, hat-pin, horizontally across it and turn the lid back over implement.

AURAL IRRIGATION**A. Solutions usually ordered:**

1. Weak soda bicarbonate.
2. Normal salt.
3. Boric acid, 3 per cent.

B. General instructions:

1. Never put anything cold in the ears.
2. Never put a pointed instrument into the ears.
3. Avoid pressure.
4. Report pain or dizziness.
5. Temperature of solution, 105 degrees F. for cleansing; 110 degrees F. to relieve pain or inflammation.

C. Articles necessary:

1. Irrigator and tubing, 1 point.
2. Kidney basin.
3. Cotton pledgets. Gauze pledgets.
4. Towel and rubber sheet or papers

D. Method:

1. Patient may lie down or be seated as comfortable.
2. Protect pillow with rubber sheet and towel, if patient is on bed.
3. Place kidney basin and have patient hold same in place.
4. Irrigate ear gently, at low pressure, merely for external cleanliness; irrigator not more than one foot above patient.
5. Dry the ear with pledgets.
6. Irrigate gently, again, and dry the auditory canal with pledgets. While irrigating, make the canal as straight as possible by holding of

a child's ear downward and backward and that of an adult upward and backward.

7. Use medication, as ordered.
8. Insert small pointed pledgets of gauze.

E. For earache:

1. Irrigate frequently with warm soda bicarbonate solution.
2. Instil 5 per cent. carbolic and glycerine.
3. Insert, loosely, absorbent cotton.
4. Apply external heat.
5. If pain is located in the mastoid region, apply cold, never heat, without a special order from the doctor.

MOUTH AND THROAT IRRIGATION

A. Articles necessary:

1. Irrigator.
2. Tubing, with or without point.
3. Tongue depressor.
4. Basin.
5. Table.
6. Sheet.

B. Solutions usually ordered. Temperature 105 to 118 degrees F.:

1. Peroxide of hydrogen, 25 per cent.
2. Potassium permanganate, pale wine color.
3. Normal salt.
4. Sodium bicarbonate, one dram to one quart of water.
5. Boric acid, 2 per cent.
6. Antiseptic, 25 per cent.
7. Iron and potassium chlorate, 25 per cent.
8. Dobell's, 50 per cent.

C. Method:

1. Pin sheet about child and place on table, face downward.
2. Protect head with left hand, over hopper or basin.
3. Insert tubing in mouth with right hand. Irrigate.
4. Cleanse face and dry.

NASAL IRRIGATION**A. General instructions:**

1. Have irrigator only from three to eight inches above patient, to prevent washing the discharge into Eustachian tube.
2. Instruct patient to breathe through the mouth only.
3. Do not allow patient to blow the nose while filled with solution nor attempt to swallow.
4. Do not place a glass tube in nostril.

B. Articles necessary:

1. Same as for aural irrigation.

C. Solutions usually used:

1. Normal salt.
2. Boric acid.
3. Sodium bicarbonate.

D. Method:

1. Pin sheet about child and place on table, face downward.
2. Irrigate the nose gently.
3. Cleanse with pledgets.
4. Application or insufflation of calomel powder.

HOT DRESSINGS FOR THE EYE**A. Articles necessary:**

1. Alcohol lamp.
2. Small basin of boiling water.
3. Sterile towel.
4. Gauze in circular pieces, size of eye.
5. Forceps.
6. Kidney basin or paper bag for waste.

B. Method:

1. Place gauze in boiling water.
2. Remove gauze with forceps.
3. Place between the folds of towel to partially dry.
4. Remove soiled dressing and place hot dressing.
5. Do not use gauze more than once if there is a discharge from the eye.
6. In cases where the heat and moisture are required, an electric light bulb may be used to keep the dressings hot, by placing the lighted bulb near the dressings and supported.

COLD COMPRESSES FOR THE EYE**A. Articles necessary:**

1. Gauze, cut circular, a little larger than the area.
2. Ice in basin and supported, for drainage, and covered.
3. Forceps.
4. Paper bag.

B. Method:

1. Place several pledgets of moistened gauze on the ice.
2. Pin paper bag to head of mattress.

3. Change compresses every two minutes.
4. If any discharge, do not use the compress but once.
5. Do not allow the compress to cover bridge of nose.
6. When available, a partially filled, small ice bag can be placed over the moistened gauze.

HYPODERMOCLYSIS

A. Object:

1. To replace lost blood after hemorrhage.
2. To stimulate the heart's action.
3. To assist in eliminating toxic materials.
4. To fill the blood-vessels and maintain the blood-pressure.

B. General instructions:

1. Take pulse before and after treatment and record.
2. Use aseptic precautions.
3. Expel air from tubing before inserting needle.
4. Do not allow the solution which is to be used to become cold.
5. Know exact amount being given to patient.
6. Usually not more than one pint of solution is introduced in one place.

C. Articles necessary:

1. Always have ready in box, marked "Transfusion set":
 - a. Two sterile brushes.
 - b. Two sterile towels.
 - c. Two dozen sterile applicators.
 - d. Two aspirating needles with wires.



FIG. 32.—Paraffin treatment of burns.

- e.* One bag with two sterile dressings, two sterile collodion dressings, and four small sponges.
- f.* Two sterile towels containing:
 - In first, one sterile pint graduate glass.
 - In second, one sterile irrigating can.
 - Tubing to be sterilized by boiling with needle at the time of use.
- g.* Bottle with bichloride of mercury solution, 1 to 1000.
- h.* Alcohol, 50 per cent.
- 2. At time of giving:
 - a.* Green soap and sterile water.
 - b.* Thermometer, disinfected.
 - c.* Salt solution, sterile, one quart, 120 degrees F. in sterile graduate.
 - d.* Salt solution, sterile, one quart, 114 to 120 degrees F. in irrigating can.
 - e.* Paper bag.
 - f.* Tincture of iodine.

PHLEBOTOMY OR VENESECTION

A. Object:

- 1. To relieve arterial or venous engorgement.
- 2. To relieve congestion or edema of the lungs.
- 3. To remove toxic material.

B. General instructions:

- 1. Have everything sterile.
- 2. Take and record pulse before and after treatment.

C. Articles necessary:

- 1. Instruments which should be boiled or carbolyzed.

2. Rubber tourniquet.
3. Rubber sheet.
4. Four sterile towels.
5. Two or three sterile dressings.
6. Bandage.
7. Collodion.
8. Green soap and sterile water.
9. Alcohol, 50 per cent.
10. Bichloride of mercury solution, 1 to 1000, or tincture of iodine.
11. Sterile glass graduate.

D. Method:

1. Cleanse the skin of the arm between the middle of the arm and middle of the forearm with green soap and water.
2. Place rubber under patient's arm which is covered with sterile towel.
3. Apply alcohol.
4. Apply bichloride of mercury or tincture of iodine as ordered.
5. Tourniquet is applied by the doctor.
6. Cover tourniquet with sterile towel and place another sterile towel similarly around forearm just below elbow.
7. Have sterile graduate glass ready.
8. After required amount of blood has been drawn, apply collodion dressing and bandage.

INTRAVENOUS INFUSION

A. Object:

1. As for hypodermoclysis. The action of saline by this method is quicker than by hypodermoclysis.

B. General instructions :

1. Same as for hypodermoclysis.
2. An extra precaution in expelling the air is necessary, as entrance of air into a vein may cause death.

C. Articles necessary :

1. As for hypodermoclysis, and
2. Rubber sheet.
3. Bandage.
4. Tourniquet.
5. Instruments which should be boiled or carbolyzed.

D. Method :

1. Skin prepared as usual.
2. Doctor applies the tourniquet.
3. Doctor inserts cannula in vein.
4. Solution to be kept warm and amount noted.
5. Tourniquet removed.
6. Wound covered with collodion dressing and bandage applied.

CHAPTER VII

SPECIMENS

PREPARATION OF SPECIMEN BOTTLES

A. Object:

1. To have ready, sterile receptacles for specimens.
2. To prevent the contamination of the specimen.

B. General instructions:

1. Use no cracked receptacle.
2. Secure the right kind of receptacle for each kind of specimen.
3. Avoid cracking bottles. Heated bottles are readily cracked by placing them in cold water or in a draught, and cold bottles are readily cracked by placing them in hot water or in a heated place.
4. Stopples must be fitted tightly.

C. Types:

1. Urine specimens:
 - a. A.M., six- to eight-ounce bottle.
 - b. Twenty-four-hour, two- to four-quart bottle.
2. Sputum:
 - a. Small, wide mouth bottle.
 - b. Paper sputum cup.
3. Stomach contents:
 - a. Wide mouth bottle, one pint.
 - b. Emesis basin, well covered.

4. Feces.

- a. Wide mouth bottle, one pint.
- b. Paper sputum cup.

D. Method:

1. To boil bottles: put hot water in the receptacle in which the bottles are to be boiled and allow it to come to the boiling point. Meanwhile, rinse the bottles to be used with cold water; wash with warm soap-suds, using a bottle brush, shot, tacks or wet toilet paper torn into small bits with scouring soap; rinse with hot water several times. Fill each bottle with hot water; place in boiler with open ends in same direction; have sufficient water in boiler to cover bottles and cover receptacle; boil ten minutes, empty and plug mouth of bottle with non-absorbent cotton, sterilized cork or with oiled paper and elastic.

SPECIMENS**A. Object:**

1. To aid in diagnosing diseases.

B. General directions:

1. Avoid outside contamination by sterilizing all receptacles.
2. Have quantity sufficient for examination.
3. Note on history chart the hour and kind of specimen obtained. Always label the receptacle containing the specimen. Do not fail to send the specimen to the laboratory.

C. Types and method of obtaining :**1. Urine :**

- a.* A.M. specimen from all new patients.
- b.* Patients going to operation.
- c.* By special order of doctor.
- d.* Urine may be collected by voiding and by catheterization.
- e.* For ordinary specimens note on label:
Ward. Date. Hour.
Patient's name and bed number.
Kind of specimen.
Junior doctor's name.

f. Twenty-four-hour specimen :

Note the time the specimen is to be started.

Have the patient void urine and do not save this amount.

Always begin the collection with an empty bladder.

Collect all the urine voided in twenty-four hours.

Have the patient urinate at the end of the twenty-four hours and add it to the urine collected and stopple.

Send entire specimen to laboratory.

Note on label :

Ward. Date.

Patient's name and bed number.

Hour of starting and closing the collection.

As: Started 3.45 A.M., 7/20/'18.

Closed 3.45 A.M., 7/21/'18.

Junior doctor's name.

2. Sputum:
 - a. Save A.M. specimen.
 - b. Have patient expectorate directly into bottle and stopple.
 - c. Clean outside of bottle with disinfectant.
 - d. Follow general instructions.
3. Stomach contents:
 - a. Obtain by saving vomitus or remove contents by aspirating.
 - b. Use a wide mouth bottle for specimen.
 - c. Clean outside of bottle with disinfectant.
 - d. Follow general instructions.
4. Feces:
 - a. Transfer defecation from bed pan to wide mouth bottle and cover securely.
 - b. Clean outside of bottle with disinfectant.
 - c. Follow general instructions.

VAGINAL SMEARS

A. Articles necessary:

1. Two glass slides and cover glasses.
2. Applicators.
3. Labels.
4. Sponges.

B. Method:

1. Cleanse glass slides with alcohol and dry.
2. Separate vulva with thumb and index finger of left hand.
3. Insert applicator well into vagina.
4. Remove, rub over glass slide.
5. Prepare two slides; when specimen is dry, place the slides face to face, enclose in sponge and send to laboratory.

6. Label with name of patient, date, number of ward, number of bed, and state "vaginal smear."

THROAT CULTURES

A. Articles necessary:

1. Sterile applicators.
2. Culture tubes.
3. Tongue depressor.

B. Method:

1. Have patient cleanse mouth with normal salt solution.
2. Have patient open mouth, using tongue depressor when necessary, and in such light as the throat is readily seen.
3. Insert applicator well up under the edge of the membrane.
4. Remove the cotton plug from culture tube, being careful that it does not become contaminated.
5. Hold the tube in a slanting position.
6. Insert swab, rub it gently over the surface of the medium, from the bottom of the tube, upwards and do not break the surface.
7. Place swab and tongue depressor in paper bag and burn.
8. Label the tube with number of ward, number of bed, name of patient, date and junior interne's name.

CHAPTER VIII

EMERGENCIES

ARTIFICIAL RESPIRATION

A. Object:

1. To promote mechanical respiration when normal respiration has ceased, due to certain causes, such as mechanical obstructions in esophagus, convulsive spasms when coughing, after inhalation of gases, during administration of ether, drowning.

B. General instructions:

1. Begin artificial respiration as soon as the need arises.
2. Continue the movements rhythmically, and for at least two hours, unless respiration is restored before that time.
3. Draw tongue forward and hold it, and if no assistance is at hand, tie a handkerchief or string around it, cross ends, pass them around back of neck and tie there.
4. If patient vomits, keep head turned to one side.
5. Do not hurry movements; ten or twelve artificial respirations per minute are sufficient.

C. Methods:

1. Sylvester's:
 - a. Place patient on back, with thick pad between shoulder blades.
 - b. Stand or kneel at head of patient.
 - c. Grasp forearm above the wrist, thumbs in,

draw arms slowly outward at right angles and upward until the hands meet above the head, causing the act of inspiration.

d. Hold hands and arms in this position three or four seconds and then flex them slowly but forcibly, for three seconds against sides of chest, causing expiration.

e. Repeat.

2. Schaefer's:

a. Turn patient on face and abdomen.

b. In case of drowning or lungs filled with water, hold the patient by the hips, bringing them up to knee height of operator, and clinching the body of the patient between the knees, holding it there a few minutes, for the gravitation of the water. Lower body.

c. See that the tongue is free and the mouth is not clogged and nostrils clear.

d. Turn head to one side and support it by patient's arm being flexed underneath the same.

e. Kneel by side of patient.

f. Spread palms of hands and fingers, with thumbs parallel, at base of scapulæ.

g. With a quick forward movement of the body, press the side of the chest walls quickly, using the weight from the shoulder and not from the arm. This expels the air from the chest.

h. Count five, slowly and rhythmically, and again press forward the body, making

pressure upon the side walls and back of the chest.

- i. Continue until respiration becomes normal.

SYNCOPE

A. Symptoms:

1. Pale face. Cold perspiration on forehead.
2. Patient complains of feeling dizzy.
3. Complete or partial unconsciousness.
4. Pupils even and natural size.
5. Respiration shallow and sighing.
6. Pulse weak and rapid.

B. Treatment:

1. Recumbent position or head lower than body or legs elevated.
2. Loosen clothing, especially about neck.
3. Keep people from crowding about patient, thus shutting out air supply.
4. Give simple hot or cold drinks.
5. Keep patient quiet, after attack.

CONVULSIONS

A. Symptoms:

1. Restlessness, fretting, gritting of teeth.
2. Twitching of muscles, jerky movements, stiffening of body, head pulled backward.
3. Eyes rolled upward.
4. Pulse rapid and weak.
5. Respiration labored.
6. Skin cold and sweaty.
7. Pupils even and natural size.
8. After attack, patients may seem to rest.

B. Treatment:

1. Guard patient that he may not be injured, but do not restrain.
2. Prevent biting tongue by placing spoon or tongue depressor between teeth.
3. Loosen clothing.
4. Call doctor.
5. Note and record duration of convulsion, character, parts of body affected and prodromal symptoms.

HEMORRHAGE**A. Types:**

1. Arterial: external wound, bleeding in spurts, synchronous with heart beat.
2. Venous: external wound, blood wells up, no definite relation between the bleeding and the heart beat.
3. Capillary: external wound, general oozing.

B. Symptoms. External wound:

1. Appearance of blood.
2. Subjective symptoms: faintness, weakness, restlessness, thirst.
3. Skin pale, cold, sweaty.
4. Pulse becomes rapid and weak.
5. Respiration becomes rapid, shallow and patient becomes air hungry.

C. Treatment:

1. Arterial: send for doctor; recumbent position with elevation of part of body from which there is the hemorrhage. Control by hand

pressure or finger pressure or tourniquet.
Assist with dressings.

2. Venous: send for doctor; apply pressure; elevate. Assist with dressings.
3. Capillary: report to doctor; slight pressure; elevation. Assist with dressings.

ISOLATING PATIENTS

A. To isolate a contagious suspect:

1. Remove patient from the general ward.
2. Assign one or more nurses to the care of the patient.
3. Separate bed utensils, basins, dishes, rubber sheets, blankets, etc., and care for the same in accordance with the orders in care of communicable diseases.
4. Every contagious case must be reported to the Health Department as soon as fully diagnosed.

CRAMP IN THE BACK OF LEG

1. When possible, have the patient lie on the back, elevate the leg so that it is at right angles with the body. Forcibly point toes toward body. Massage gastrocnemius muscle.
2. When the patient is unable to assume the above position, give deep massage to gastrocnemius muscle.

SINGULTUS

1. Encourage deep, rhythmical breathing.
2. Cause sneezing by tickling the nose.

3. Grasp tongue with clean towel and pull it forward when the sensation of hiccough is felt.
4. Cause pressure on frontal sinuses.
5. Hot water bag or mustard plaster to epigastrium.
6. Give a teaspoonful of lemon juice, heavy with salt.

FOREIGN BODY IN EYE

1. Do not allow the patient to rub the injured eye.
2. Have the patient grasp the lashes, draw the lid away from the eyeball and downward, over the lower lid, holding it there for a few seconds.
3. Keep the eye closed and blow the nose hard, on the injured side, closing the opposite nostril.
4. When these simple measures fail to dislodge the object, evert the upper lid and inspect it in a good light. Never remove a speck from the eyeball or lid, with any soiled article. An eye-glass containing warm boric acid solution, may be used to irrigate the eyeball.
5. If there is no relief within a half hour, see an oculist.

SPLINTERS

1. When splinters are under the nails, it may be necessary to cut away a part of the nail above the protruding end of the splinter, in order to catch hold of it. Hold the flesh or nail

firmly and remove splinter with tweezers or forceps, or by threading it in the eye of a needle, turning the needle so as to bind it. Remove quickly and apply alcohol or tincture of iodine.

HEAT STROKE

A. Symptoms:

1. Giddiness and pain in head.
2. Coma. Face flushed. Skin, hot and dry.
3. Pupils dilated.
4. Dyspnea or sighing respiration.

B. Treatment:

1. Get patient into a cool place. Send for a doctor.
2. Elevate head.
3. Loosen clothing.
4. Ice or cold to head.
5. Hose or dash cold water on body or give cold tubbing, using constant friction on skin.

POISON CASES

1. Send for a doctor.
2. Protect patient from injury.
3. Save all articles, marks on clothing or skin, which may lead to the identification of poison taken.
4. In case the poison taken is known, have antidote ready by the time the doctor arrives.
5. Gas poison cases easily develop pressure sores and are readily burned by the application of heat.

CARE OF THE DEAD**A. Object:**

1. To have the body straight, clean and in proper condition for the morgue.

B. General instructions:

1. Lay out the body as soon as the doctor has pronounced the patient dead, as the muscles soon become stiffened.
2. Remove all but two pillows to prevent the blood settling in the head.
3. Straighten the covers and cover the face with the sheet.
4. See that the body is clean, especially hair and nails.
5. Do not expose the body unnecessarily.
6. When patient is in a dying condition, report, in day service, to head-nurse, who notifies the doctor, relatives, minister or priest. In night service, report to night superintendent.

C. Articles necessary:

1. Supply basket containing:
 - a. Paper bag; toilet paper.
 - b. Large and small stick, for packing.
 - c. Non-absorbent cotton.
 - d. Bandages, roller and four-tailed.
 - e. Soap, wash cloth, towels.
 - f. Scissors, comb.
 - g. Two sheets.
 - h. Morgue sheet, pins.
2. Basin of warm carbolic solution, $2\frac{1}{2}$ per cent., or formaldehyde solution, 2 per cent.
3. Laundry bag.

D. Method:

1. Remove all covers, except sheet and gown.
2. Bathe body with carbolic or formaldehyde solution.
3. Comb hair.
4. Close eyes by placing a very small piece of tissue paper or cotton under upper lid.
5. Pack mouth and nose with a small amount of cotton.
6. Fasten jaw in place with four-tailed bandage and a rolled towel may be placed under the chin in difficult cases.
7. Pack the vagina well with cotton and place a large piece of cotton over genitals.
8. If a surgical case with open wound, place cotton pad over wound, strap in place with wide strip of adhesive while the body is still warm.
9. Turn the body on side, bathe back, pack rectum well, remove under and draw sheets. Allow the rubber sheet to remain over mattress, adjust clean bottom sheet and morgue sheet. Place a large piece of cotton under buttocks.
10. Cross hands over chest and tie wrists with wide bandage.
11. Place cotton between knees and ankles and tie with a wide bandage.
12. Bring morgue sheet down over head and pin with a safety pin.
13. Fold morgue sheet smoothly around legs, hips and trunk.

14. Pin down the front and sides, with as few pins as necessary to hold the sheet in place.
15. Place clean sheet over body.
16. Fill out one death notice and pin it on the chest, just below the head, pins pointed to centre.
17. Fill out second death notice, to be sent to receiving office, in envelope.
18. Fill out third death notice to be attached to yellow slip signed by doctor.
19. All contagious cases, including epidemic forms of meningitis, are wrapped in oil sheet before morgue sheet is wrapped about body. The receiving office is notified to take body to contagious morgue.

E. Record:

1. Hour of death.
2. Anything unusual connected with the death.

CHAPTER IX

GENERAL TOPICS

1. The supervisor of a department is responsible for the general management of the ward, in accordance with the rules of the hospital and the training school for nurses; and is responsible for the practical instruction and technic of the student nurses.
2. Head-nurses are responsible to the supervisor of the department for the management of the wards.
3. Any notices sent to the wards by the hospital administration are to be bulletined, carried out, and the superintendent of the training school to receive a copy of the same, at once.
4. In case a patient's discharge has been written and the patient may need nursing care after leaving the hospital, the supervisor will report the same to the head of the social service department, prior to the discharge of said patient.
5. In case of accident to any patient, a detailed report of the same must be written, signed by the supervisor and head-nurse and sent to the superintendent of the training school, at once.
6. A "serious condition" notice is to be sent out through the receiving office by the supervisor or head-nurse. When a student nurse is in charge of a ward, this notice must be sent out through a supervisor. In all instances, this notice must be dated, timed, made out at once on back of first

- sheet of the doctor's record on chart and signed.
7. Requisitions for supplies are to be made only through the assistant in charge of the supplies.
 8. Hospital telephone service is for the business of the institution only. No member of the nursing service is to use the telephone for individual purposes or to allow the patients to use the telephone. Student nurses, orderlies or attendants may take telephone messages from the patients and report same to the supervisor or head-nurse, who will transmit the same.
 9. Requisitions for diets from the diet kitchen must be ready by 9 A.M. daily for collection. Orders are to be written and signed by the supervisor. Head-nurses must, daily, verify the corrected lists of special orders sent from the diet kitchen and must see that this special food is not allowed to collect or waste. All special orders are to be promptly given out to those for whom it is intended, the diet kitchen dishes collected, returned to the diet kitchen and never used in the wards for any purpose other than in the care of foods.
 10. The priest should be called for the Catholic patients at the time when the "serious condition" notice is sent, unless the record shows that he has already been called.
 11. Every student nurse in the ward is held responsible for the following duties:
 - a. The general order of the ward.
 - b. The ventilation of the ward.
 - c. The immediate attention of the patient's necessities.

- d.* To see that all food, drink, and medicines are promptly and properly served and kept from all contamination.
 - e.* To see that accurate records are made promptly.
 - f.* To report to the head-nurse, at once, any unusual condition of a patient, any mistakes in treatment or medicine or other irregularities.
12. All nurses on duty are responsible for the collection of passes from visitors admitted to the wards at any time; no more than three visitors shall be permitted to visit any one patient at one time. Passes issued outside of visiting hours are good for five minutes only, except when the patient is in a serious condition. The visiting hours are as follows:
- | | | |
|----------|----------|----------|
| Tuesday | 2-3 P.M. | 7-8 P.M. |
| Thursday | 2-3 P.M. | 7-8 P.M. |
| Saturday | | 7-8 P.M. |
| Sunday | 2-4 P.M. | |
13. No women patients are permitted to go through corridors or to the X-ray department except when attended by a student nurse, attendant, or orderly.
14. When patient's clothes or valuables are taken home by relatives or friends, the same must be signed for by them and the nurse, in the ward clothes book. In case of death or irresponsibility from any cause, the nurses are responsible for any valuables retained by the patient and must follow the rules for the care of valuables.

15. In emergencies, restraints may be used at the discretion of the nurse. Other than times of emergency, the nurses may not apply or remove restraints from patients without a written order from the doctor.
16. Patients are not allowed to have or to keep razors, knives or any sharp instruments.
17. Patients are not allowed to loiter in the corridors or to leave their wards without a permit from the head-nurse.
18. Attendants and orderlies are forbidden to wear gowns through the main corridors without a permit from the head-nurse.
19. Fire: When a fire alarm is sounded in the hospital it also sounds in the nurses' home. An immediate response to a fire alarm is required of every person in the nursing service. Learn the number on the boxes in connection with each ward.

ADMISSION OF PATIENTS INTO COOK COUNTY HOSPITAL

1. Patients who are brought into the hospital by the police go directly into the examining room. Others pass into the waiting room, where the county investigator takes the financial history.
2. Police cases take precedence. When a police case goes to the examining room, the investigator must be notified, as no card of admission can go through the receiving office without the OK from the investigator.
3. In selecting patients from the waiting room, the

one who is apparently the sickest is given the preference.

4. On entering the examining room, the temperature of every patient is taken.
5. Any patient who is to have a chest or abdominal examination made is assigned to a booth where preparation is made for the examining table.
6. The nurse is always present during the examination.
7. When the patient has been examined and admitted to the hospital, the assignment to the ward is made. A history card is filled out by the nurse and signed by the doctor. Care must be taken that the name and address are correct. This card is then marked OK by the county investigator and sent to the clerk in the receiving office, where a smaller card is made out designating the ward, and this card accompanies the patient to the ward.
8. When the doctor is making a physical examination, he may or may not order the initial bath to be given in this department. This also is designated on the history card, together with the patient's temperature. The patient is then taken to the bathroom, or allowed to walk, according to the condition. The bath depends wholly on the condition of the patient, whether bathed in chair, on cart or the table, or whether a shower is given. A head shampoo is given to all who receive the initial bath.
9. The nurse in charge of the bathroom is responsible for the care of clothes, money and other valuables. The patient is requested to give all money and jewelry to the care of the nurse, but if un-

willing, a statement is signed by the patient releasing the nurse from further responsibility of the same. After the bath the patient is immediately taken to the assigned ward.

10. When the doctor, in examining the case, is in doubt as to the diagnosis, he may place his patient in the observation ward from eight to ten hours. If at the end of that time symptoms have developed more clearly, the patient is sent into the hospital. If no symptoms have developed, and the patient is in good condition, he is released from hospital.

NURSES' RULES FOR RECEIVING NEW PATIENTS

A. Follow these rules in the order given:

1. Call junior interne (or in emergency cases, call senior interne) and put patient to bed, at once.
2. Write on the BACK of patient's admission card:
 - a. Nativity.
 - b. Age.
 - c. Occupation.
 - d. How long a resident in Cook County.
 - e. Civil state.
 - f. How long sick.
 - g. Religion.
 - h. Money.
 - i. Valuables.
 - j. Disposition of clothes and valuables.
 - k. Temperature.
 - l. Pulse.
 - m. Respiration.
 - n. Signature.

DO NOT WRITE ADDRESS OR TELEPHONE NUMBER

3. Write the bed number on the front of the admission card.
4. Give liquid diet, unless contraindicated.
5. Put patient's bed number on diet list, unless otherwise ordered.
6. Put patient's bed number on four-hour temperature list.
7. Clothes:
 - a. When patient comes to ward, dressed in own clothes, the clothes and valuables are to be listed in Clothes Book No. 1 and signed by the nurse and patient. When the patient is not able to sign, a second nurse must inspect clothes and add her signature.
 - b. When patient comes to ward in hospital clothing, the date, name of patient, are to be entered in Clothes Book No. 2, and a statement made that the valuables and clothes have been cared for in the receiving department.
8. Money and valuables must be taken from the patients, listed in the custodian's book and signed by the nurse receiving the same and who is responsible for it until the custodian receipts for it. When the patient turns over money or valuables to the care of the hospital, he must sign a statement to that effect and the hospital then becomes responsible for the same. When money or valuables

are known to have been cared for by the police, a record of the same must be made in the custodian's book. Patients are not allowed to keep sharp instruments of any kind.

9. Make out the chart, recording:
 - a.* Time of admission of patient to hospital, to ward.
 - b.* How the patient came to the ward.
 - c.* The general condition of the patient.
 - d.* The presence of pressure-sores, abrasions, contusions, etc.
 - e.* Bath.
 - f.* Disposition of clothes and valuables.
 - g.* Temperature, pulse, respiration.
 - h.* Diet.
 - i.* Attach police record when left with the admission card and record on chart: "Police record attached." When no police record left, "No police record attached."

NURSES' RULES FOR DISCHARGING PATIENTS

1. No patient is to be discharged from the hospital until the discharge is written by the interne.
2. If the patient is to be followed up by the social service department, notice is to be sent, at once, to that department. Workers from that department will arrange to transfer the patient from the hospital.
3. The court cases are shown on the ward directory

with a BLUE slip instead of a WHITE slip. No court case shall be allowed to leave the hospital without due notification to the social service department.

4. The supervisor or head-nurse makes arrangements for the relatives or friends to take charge of the discharged patient, or arranges for the hospital ambulance.
5. After a patient's discharge is written, the supervisor or head-nurse makes out a slip, giving the patient's name, dates of admission and discharge, and sends this to the clothes room by an attendant or orderly. The clothes are issued upon this slip and is signed for by the one receiving the same. The patient signs for the clothes in the ward book, where entry was made, upon admission. When a patient is able to go to the custodian's office for his valuables, he is given a YELLOW card, signed by the supervisor or head-nurse, on which is the patient's name, dates of admission and discharge and number of ward. The custodian then issues the valuables and the patient signs for the same. If the patient is unable to go to the custodian's office, a nurse takes the custodian's book, receives the valuables and the patient signs for the same. Any other valuables that have been left in charge of the nurses must be returned to the patient before he leaves the hospital.
6. After a patient has left the ward, the discharge slips are attached to the chart, the chart is rearranged, unused leaves removed and then sent to the librarian's office.

WHAT STUDENT NURSES SHOULD KNOW BEFORE GOING ON JUNIOR NIGHT DUTY

1. General instructions.
2. Admission of patients into hospital.
3. Rules for receiving new patients.
4. Rules for discharging patients.
5. Care of bed utensils.
6. Care of bathrooms, lavatories, plumbing.
7. Care of empty beds.
8. Care of rubber goods.
9. General symptoms.
10. Some things regarding stains.
11. Order of the ward.
12. Charting, recording, and changing records at midnight.
13. Taking pulse, temperature, and respiration.
14. To make up bed patients.
15. Cleansing baths.
16. To place and remove bed pan.
17. Care of mouth.
18. Care of back.
19. Care of pressure sores.
20. Care of hair.
21. Care of nails.
22. Enemata.
23. Application of external heat and cold.
24. How to make a bed patient comfortable.
25. General liquid diets.
26. Collecting various specimens.
27. Making solutions,

28. Fomentations and hot dressings.
29. Handling of sterile supplies.
30. General disinfection and sterilization.
31. Administration of medicines.
32. Catheterization.
33. Giving of douches.
34. Positions and draping for examinations and treatment.
35. Restraints.
36. Care of the dead.
37. Care of isolated cases.
38. Emergencies:
 - a. Occurring in the ward.
 - b. Brought in as new patients.
39. Gastric lavage.
40. Transfusion.
41. Nasal feeding.

Student nurses going on night duty in the medical wards must know the following technic, in addition to the above:

1. Packs: hot and cold.
2. Sponging.
3. Alcohol sweat.
4. Orders in care of communicable diseases.
5. Tubbing.
6. Throat cultures.

Student nurses going on night duty in the surgical wards must know the following technic in addition to the forty-one general points:

1. Preparation of patient for operation.
2. Preparation of operation bed.
3. Care of patient after operation.
4. Care of dressing-room.

Student nurses going on night duty after their second month of night duty, need to know the special nursing technic of the department to which they are assigned, the difference between the junior and senior duties, the junior and senior internes.

ORGANIZATION FOR HANDLING A LARGE GROUP OF INJURED PERSONS

Notice of the possibility of a large number of injured persons being brought to the hospital should be communicated to the superintendent of nurses, at once, in order to provide for a temporary re-arrangement of the nursing service. Notice should be given the wards likely to receive such patients.

A. Plan :

1. That one supervisor act as general manager of the emergency, with one assistant.
2. That one supervisor govern extra supplies for all wards to which patients are sent.
3. That one supervisor make the general assignments of nurses.
4. That one supervisor or head-nurse be assigned to each ward receiving emergency patients.
5. That the head-nurse of the ward continue as head-nurse of the ward and be responsible for the organization of her ward, conferring with the supervisors in regard to extra supplies and nurses.
6. That patients brought to the hospital in an ambulance or automobile, in an unconscious condition, be met at the door by orderlies with stretchers, wheel chairs, blankets and sheets, for covering.

7. That as soon as the patients are brought in, a special package be pinned on the clothing. This package to contain:
 - a. One metal tag, with tape, to tie about neck.
 - b. One paper tag, to wire to bedstead.
 - c. One paper tag, to wire on clothes bundle.
 - d. One envelope, to collect money and valuables in and seal.
 - e. One muslin square, to tie clothes in. The three tags and envelope to carry the same number.
8. That elevator service be reserved for these patients only.
9. That two janitors be provided for continuous service, in wards receiving patients.
10. That one nurse be assigned to every three or six patients and be responsible for the clothes and valuables. The clothes, without being listed, put into muslin square and tagged with numbered tag in special package; money, rings or other valuables being placed in numbered envelope sent in special package, sealed. Both of these tags should also carry the name of the nurse who was responsible for this attention. These clothes and valuables must be given to the nurse whose duty it will be to list the same.
11. That one nurse shall be made responsible for the listing of valuables and clothes, after first aid has been extended to the patient.
12. That one nurse be assigned to the ward distribution of supplies.

13. That two nurses be assigned for senior duties.
14. That two nurses be assigned to dressing or examining rooms.
15. That extra nurses be assigned to relief and night duty, as required to meet the emergency.
16. That one or two nurses, in each ward, be assigned to help friends identify patients, as required.
17. That one person, in each ward, be assigned to the telephone service and that reports of death be given her immediately and other reports be sent in to her once each hour.
18. That one nurse be assigned to the reports of patients for each three or four wards. Two reports for each ward and two reports for the hospital information desk shall be made. Each ward telephone operator and information shall have a report given them each hour. During the hour, between the reports, the report nurse shall see each patient, record his condition and exchange the reports at each centre, on the even hour. Deaths in the ward shall be reported to the ward operator and transmitted to the hospital information desk, at once.
19. That the operating-room service be cut down to surgical emergency cases, only, in order to release the nurses in that department to meet the special emergency.
20. That the general visiting hours be cancelled in the wards receiving emergency cases.

21. That nurse's classes be cancelled and such notice be sent to the home to be bulletined.
22. That, in response for a general call for the nurses to report on duty, they respond at once and report in their regularly assigned wards, until reassigned by the supervisor in charge of assignments or released from duty.
23. That the night superintendent be provided, by the administration, a list of internes who may be called upon, for service during the night.

In such instance as it is necessary to use the psychopathic building for heat cases, or the like, in addition to the foregoing:

24. That the front hall be used as a receiving department.
25. That a house officer be placed at the entrance to keep the police and friends from accompanying the patients to the wards.
26. That one or more nurses be placed at the entrance to supply the identification packages.
27. That one person be transferred from the general receiving department to this entrance, to make out the admittance cards.
28. That one or two nurses be assigned to the entrance, to interview officers and friends as to the patient's identification; make out the card of admittance and attach it to the police sheet obtained from the officer.
29. That in such instance as the tubs are used, they be numbered.

30. That one interne, one nurse and two orderlies be assigned to each tub.
31. That the interne and orderlies remove the clothes and that the nurse be responsible for the same to be wrapped and tagged; that valuables be sealed in envelope and that both tags be signed by her. She must keep a list of the numbered tags she has used and the number of the tub. Whenever possible, a record should be made on the envelope, whether or not the police have previously cared for valuables.

ORGANIZATION OF FIRE DEPARTMENT

COOK COUNTY HOSPITAL

1. Chief of Department—Warden.
2. Assistant Chiefs—assistant wardens, chief engineer, fire guards.
3. Stand-pipe and hose corps—one fireguard, one engineer, one fireman, from power plant.
4. Fire pump operator—one engineer.
5. Chemical and hand pumps—steamfitter or plumber on watch and three janitors.
6. Pipe, pole and ax corps—three janitors.
7. Stretcher and cart corps—doctors, nurses and orderlies.

IN CASE OF FIRE

A. Nurses:

1. Nurses in ward where fire is discovered will turn in fire alarm and get all the patients who can walk or in wheel chairs to a place

of safety, out of the danger zone. Nurses from the nurses' home and those not on duty will divide into three squads, one squad to report for duty at ward where alarm was sounded, each of the other two to adjoining wards and get patients ready for removal with the greatest possible haste and without any unnecessary alarm.

B. Internes:

1. Internes will report directly at scene of fire and place all patients on carts and stretchers - and remove them to the nearest ward out of the danger zone.

C. Orderlies:

1. Orderlies will bring their carts and stretchers from receiving ward and find all the other carts that will be needed.

D. Elevator men:

1. Elevator men in section of building where fire is will remain at their posts.

E. Guards:

1. Door guards will remain at their posts and not allow any person in the building without important business.

F. Engineers and firemen:

1. One engineer, one fireman from the power plant and one fire guard will man the stand-pipe hose, two men at the nozzle and one at valve; the remaining engineer places the fire pump in operation.

G. Other employes:

1. Steamfitter or plumber on watch and three

janitors will man the chemical and hand pumps. Three janitors will man the axes and pike poles, two with axes and one with pike pole. All other employes on duty at the time will hasten to the scene of the fire. Doctors, nurses and all employes will act upon orders from the fire chief in charge.

H. Switchboard operators:

1. Switchboard operators will notify the receiving office and all wards adjoining the fire zone and give them location of the fire when alarm is sounded.

I. Fire drills:

1. Employes are subject to a fire drill at any time. At such times all the foregoing rules will be strictly observed. Attaches and employes who refuse to respond to a fire alarm call and who fail to provide a satisfactory reason will be subject to such penalties as the case demands.

J. Rules:

1. Keep all passageways to fire escapes, exits and fire apparatus clear of obstruction. Allow no door to be securely fastened. In case it is absolutely necessary to fasten a door notify the fire chief in charge at once. Except in case of fire, employes must not remove or use fire hose or other fire equipments.

(Signed) J. C. McDONNELL,
Chief Fire Prevention and Public Safety.

MICHAEL ZIMMER, *Warden.*

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